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Namespace Documentation

5.1 activemq Namespace Reference

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Namespaces

- namespace **cmsutil**
- namespace **commands**
- namespace **core**
- namespace **exceptions**
- namespace **io**
- namespace **library**
- namespace **state**
- namespace **threads**
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- namespace **wireformat**

5.1.1 Detailed Description

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5.2 activemq::cmsutil Namespace Reference

Data Structures

- class **CachedConsumer**

  A cached message consumer contained within a pooled session.

- class **CachedProducer**

  A cached message producer contained within a pooled session.

- class **CmsAccessor**

  Base class for ***activemq.cmsutil.CmsTemplate*** *(p. 986) and other CMS-accessing gateway helpers, defining common properties such as the CMS* ***cms.ConnectionFactory*** *(p. 1108) to operate on.*

- class **CmsDestinationAccessor**

  Extends the `CmsAccessor` *(p. 965) to add support for resolving destination names.*

- class **CmsTemplate**

  `CmsTemplate` *(p. 986) simplifies performing synchronous CMS operations.*

- class **DestinationResolver**

  Resolves a CMS destination name to a `Destination`*.*

- class **DynamicDestinationResolver**

  Resolves a CMS destination name to a `Destination`*.*

- class **MessageCreator**

  Creates the user-defined message to be sent by the `CmsTemplate` *(p. 986).*

- class **PooledSession**

  A pooled session object that wraps around a delegate session.

- class **ProducerCallback**

  Callback for sending a message to a CMS destination.

- class **ResourceLifecycleManager**

  Manages the lifecycle of a set of CMS resources.

- class **SessionCallback**

  Callback for executing any number of operations on a provided CMS Session.

- class **SessionPool**

  A pool of CMS sessions from the same connection and with the same acknowledge mode.

5.3 activemq::commands Namespace Reference

Data Structures

- class **ActiveMQBlobMessage**
- class **ActiveMQBytesMessage**
- class **ActiveMQDestination**
- class **ActiveMQMapMessage**
- class **ActiveMQMessage**
- class **ActiveMQMessageTemplate**
- class **ActiveMQObjectMessage**
- class **ActiveMQQueue**
- class **ActiveMQStreamMessage**
- class **ActiveMQTempDestination**
- class **ActiveMQTempQueue**
- class **ActiveMQTempTopic**
- class **ActiveMQTextMessage**
- class **ActiveMQTopic**
- class **BaseCommand**
- class **BaseDataStructure**
- class **BooleanExpression**
- class **BrokerError**

  This class represents an Exception sent from the Broker.

- class **BrokerId**
- class **BrokerInfo**
- class **Command**
- class **ConnectionControl**
- class **ConnectionError**
- class **ConnectionId**
- class **ConnectionInfo**
- class **ConsumerControl**
- class **ConsumerId**
- class **ConsumerInfo**
- class **ControlCommand**
- class **DataArrayResponse**
- class **DataResponse**
- class **DataStructure**
- class **DestinationInfo**
- class **DiscoveryEvent**
- class **ExceptionResponse**
- class **FlushCommand**
- class **IntegerResponse**
- class **JournalQueueAck**
- class **JournalTopicAck**
- class **JournalTrace**
- class **JournalTransaction**
- class **KeepAliveInfo**
- class **LastPartialCommand**
- class **LocalTransactionId**

- class **Message**
- class **MessageAck**
- class **MessageDispatch**
- class **MessageDispatchNotification**
- class **MessageId**
- class **MessagePull**
- class **NetworkBridgeFilter**
- class **PartialCommand**
- class **ProducerAck**
- class **ProducerId**
- class **ProducerInfo**
- class **RemoveInfo**
- class **RemoveSubscriptionInfo**
- class **ReplayCommand**
- class **Response**
- class **SessionId**
- class **SessionInfo**
- class **ShutdownInfo**
- class **SubscriptionInfo**
- class **TransactionId**
- class **TransactionInfo**
- class **WireFormatInfo**
- class **XATransactionId**

5.4 activemq::core Namespace Reference

Namespaces

- namespace **kernels**
- namespace **policies**

Data Structures

- class **ActiveMQAckHandler**

  Interface class that is used to give CMS Messages an interface to Ack themselves with.

- class **ActiveMQConnection**

  Concrete connection used for all connectors to the ActiveMQ broker.

- class **ActiveMQConnectionFactory**
- class **ActiveMQConnectionMetaData**

  This class houses all the various settings and information that is used by an instance of an ***ActiveMQConnection*** *(p. 232) class.*

- class **ActiveMQConstants**

  Class holding constant values for various ActiveMQ specific things Each constant is defined as an enumeration and has functions that convert back an forth between string and enum values.

- class **ActiveMQConsumer**
- class **ActiveMQMessageAudit**
- class **ActiveMQProducer**
- class **ActiveMQQueueBrowser**
- class **ActiveMQSession**
- class **ActiveMQSessionExecutor**

  Delegate dispatcher for a single session.

- class **ActiveMQTransactionContext**

  Transaction Management class, hold messages that are to be redelivered upon a request to rollback.

- class **ActiveMQXAConnection**
- class **ActiveMQXAConnectionFactory**
- class **ActiveMQXASession**
- class **AdvisoryConsumer**
- class **ConnectionAudit**

  Provides the Auditing functionality used by Connections to attempt to filter out duplicate Messages.

- class **DispatchData**

  Simple POCO that contains the information necessary to route a message to a specified consumer.

- class **Dispatcher**

  Interface for an object responsible for dispatching messages to consumers.

- class **FifoMessageDispatchChannel**
- class **MessageDispatchChannel**
- class **PrefetchPolicy**

  Interface for a Policy object that controls message Prefetching on various destination types in ActiveMQ-CPP.

- class **RedeliveryPolicy**

  *Interface for a **RedeliveryPolicy** (p. 2527) object that controls how message Redelivery is handled in ActiveMQ-CPP when a transaction is rolled back.*

- class **SimplePriorityMessageDispatchChannel**
- class **Synchronization**

  *Transacted Object **Synchronization** (p. 2952), used to sync the events of a Transaction with the items in the Transaction.*

5.5 activemq::core::kernels Namespace Reference

Data Structures

- class **ActiveMQConsumerKernel**
- class **ActiveMQProducerKernel**
- class **ActiveMQSessionKernel**
- class **ActiveMQXASessionKernel**

5.6 activemq::core::policies Namespace Reference

Data Structures

- class **DefaultPrefetchPolicy**
- class **DefaultRedeliveryPolicy**

5.7 activemq::exceptions Namespace Reference

Data Structures

- class **ActiveMQException**
- class **BrokerException**
- class **ConnectionFailedException**

5.8 activemq::io Namespace Reference

Data Structures

- class **LoggingInputStream**
- class **LoggingOutputStream**

  OutputStream filter that just logs the data being written.

5.9 activemq::library Namespace Reference

Data Structures

- class **ActiveMQCPP**

5.10 activemq::state Namespace Reference

Data Structures

- class **CommandVisitor**

  Interface for an Object that can visit the various Command Objects that are sent from and to this client.

- class **CommandVisitorAdapter**

  Default Implementation of a ***CommandVisitor*** *(p. 1020) that returns NULL for all calls.*

- class **ConnectionState**
- class **ConnectionStateTracker**
- class **ConsumerState**
- class **ProducerState**
- class **SessionState**
- class **Tracked**
- class **TransactionState**

5.11 activemq::threads Namespace Reference

Data Structures

- class **CompositeTask**

  Represents a single task that can be part of a set of Tasks that are contained in a ***CompositeTaskRunner*** *(p. 1040).*

- class **CompositeTaskRunner**

  A ***Task*** *(p. 2973) Runner that can contain one or more CompositeTasks that are each checked for pending work and run if any is present in the order that the tasks were added.*

- class **DedicatedTaskRunner**
- class **Scheduler**

  Scheduler *(p. 2615) class for use in executing Runnable Tasks either periodically or one time only with optional delay.*

- class **SchedulerTimerTask**

  Extension of the Decaf TimerTask that adds a Runnable instance which is the target of this task.

- class **Task**

  Represents a unit of work that requires one or more iterations to complete.

- class **TaskRunner**

5.12 activemq::transport Namespace Reference

Namespaces

- namespace **correlator**
- namespace **failover**
- namespace **inactivity**
- namespace **logging**
- namespace **mock**
- namespace **tcp**

Data Structures

- class **AbstractTransportFactory**

  *Abstract implementation of the **TransportFactory** (p. 3117) interface, providing the base functionality that's common to most of the **TransportFactory** (p. 3117) instances.*

- class **CompositeTransport**

  *A Composite **Transport** (p. 3109) is a **Transport** (p. 3109) implementation that is composed of several Transports.*

- class **DefaultTransportListener**

  *A Utility class that create empty implementations for the **TransportListener** (p. 3130) interface so that a subclass only needs to override the one's its interested.*

- class **FutureResponse**

  A container that holds a response object.

- class **IOTransport**

  *Implementation of the **Transport** (p. 3109) interface that performs marshaling of **commands** (p. 61) to IO streams.*

- class **ResponseCallback**

  Allows an async send to complete at a later time via a Response event.

- class **Transport**

  *Interface for a **transport** (p. 72) layer for command objects.*

- class **TransportFactory**

  Defines the interface for Factories that create Transports or TransportFilters.

- class **TransportFilter**

  *A filter on the **transport** (p. 72) layer.*

- class **TransportListener**

  *A listener of asynchronous **exceptions** (p. 67) from a command **transport** (p. 72) object.*

- class **TransportRegistry**

  *Registry of all **Transport** (p. 3109) Factories that are available to the client at runtime.*

5.13 activemq::transport::correlator Namespace Reference

Data Structures

- class **ResponseCorrelator**

  *This type of **transport** (p. 72) filter is responsible for correlating asynchronous responses with requests.*

5.14 activemq::transport::failover Namespace Reference

Data Structures

- class **BackupTransport**
- class **BackupTransportPool**
- class **CloseTransportsTask**
- class **FailoverTransport**
- class **FailoverTransportFactory**

  *Creates an instance of a **FailoverTransport** (p. 1477).*

- class **FailoverTransportListener**

  *Utility class used by the **Transport** (p. 3109) to perform the work of responding to events from the active **Transport** (p. 3109).*

- class **URIPool**

5.15 activemq::transport::inactivity Namespace Reference

Data Structures

- class **InactivityMonitor**
- class **ReadChecker**

  Runnable class that is used by the {.

- class **WriteChecker**

  Runnable class used by the {.

5.16 activemq::transport::logging Namespace Reference

Data Structures

- class **LoggingTransport**

  *A **transport** (p. 72) filter that logs **commands** (p. 61) as they are sent/received.*

5.17 activemq::transport::mock Namespace Reference

Data Structures

- class **InternalCommandListener**

  Listens for Commands sent from the ***MockTransport*** *(p. 2208).*

- class **MockTransport**

  The ***MockTransport*** *(p. 2208) defines a base level* ***Transport*** *(p. 3109) class that is intended to be used in place of an a regular protocol* ***Transport*** *(p. 3109) suck as TCP.*

- class **MockTransportFactory**

  Manufactures MockTransports, which are objects that read from input streams and write to output streams.

- class **ResponseBuilder**

  Interface for all Protocols to implement that defines the behavior of the Broker in response to messages of that protocol.

5.18 activemq::transport::tcp Namespace Reference

Data Structures

- class **SslTransport**

  Transport *(p. 3109) for connecting to a Broker using an SSL Socket.*

- class **SslTransportFactory**
- class **TcpTransport**

  Implements a TCP/IP based ***transport*** *(p. 72) filter, this* ***transport*** *(p. 72) is meant to wrap an instance of an* ***IOTransport*** *(p. 1777).*

- class **TcpTransportFactory**

  Factory Responsible for creating the ***TcpTransport*** *(p. 2989).*

5.19 activemq::util Namespace Reference

Data Structures

- class **ActiveMQMessageTransformation**
- class **ActiveMQProperties**

  Implementation of the CMSProperties interface that delegates to a ***decaf::util::Properties*** *(p. 2471) object.*

- class **AdvisorySupport**

  Support class that provides various static constants for use in constructing Destination names for the ActiveMQ advisory destinations.

- class **CMSExceptionSupport**
- class **CompositeData**

  Represents a Composite URI.

- class **IdGenerator**
- class **LongSequenceGenerator**

  This class is used to generate a sequence of long long values that are incremented each time a new value is requested.

- class **MarshallingSupport**
- class **MemoryUsage**
- class **PrimitiveList**

  List of primitives.

- class **PrimitiveMap**

  Map of named primitives.

- class **PrimitiveValueConverter**

  Class controls the conversion of data contained in a ***PrimitiveValueNode*** *(p. 2415) from one type to another.*

- class **PrimitiveValueNode**

  Class that wraps around a single value of one of the many types.

- class **Service**

  Base interface for all classes that run as a ***Service*** *(p. 2657) inside the application.*

- class **ServiceListener**

  Listener interface for observers of ***Service*** *(p. 2657) related events.*

- class **ServiceStopper**
- class **ServiceSupport**

  Provides a base class for ***Service*** *(p. 2657) implementations.*

- class **URISupport**
- class **Usage**

Functions

- template<>
  std::string **PrimitiveValueConverter::convert< std::string >** (const **PrimitiveValueNode** &value) const
- template<>
  std::vector< unsigned char > **PrimitiveValueConverter::convert< std::vector< unsigned char > >** (const **PrimitiveValueNode** &value) const

5.19.1 Function Documentation

5.19.1.1 template<> std::string activemq::util::PrimitiveValueConverter::convert< std::string > (const PrimitiveValueNode & *value*) const [inline]

5.19.1.2 template<> std::vector<unsigned char> activemq::util::PrimitiveValueConverter::convert< std::vector< unsigned char > > (const PrimitiveValueNode & *value*) const [inline]

5.20 activemq::wireformat Namespace Reference

Namespaces

- namespace **openwire**
- namespace **stomp**

Data Structures

- class **MarshalAware**
- class **WireFormat**

  Provides a mechanism to marshal ***commands*** *(p. 61) into and out of packets or into and out of streams, Channels and Datagrams.*

- class **WireFormatFactory**

  The ***WireFormatFactory*** *(p. 3215) is the interface that all* ***WireFormatFactory*** *(p. 3215) classes must extend.*

- class **WireFormatNegotiator**

  Defines a ***WireFormatNegotiator*** *(p. 3231) which allows a* ***WireFormat*** *(p. 3211) to.*

- class **WireFormatRegistry**

  Registry of all ***WireFormat*** *(p. 3211) Factories that are available to the client at runtime.*

5.21 activemq::wireformat::openwire Namespace Reference

Namespaces

- namespace **marshal**
- namespace **utils**

Data Structures

- class **OpenWireFormat**
- class **OpenWireFormatFactory**
- class **OpenWireFormatNegotiator**
- class **OpenWireResponseBuilder**

  *Used to allow a MockTransport to generate response **commands** (p. 61) to OpenWire Commands.*

5.22 activemq::wireformat::openwire::marshal Namespace Reference

Namespaces

- namespace **generated**

Data Structures

- class **BaseDataStreamMarshaller**

  *Base class for all Marshallers that **marshal** (p. 83) DataStructures to and from the wire using the OpenWire protocol.*

- class **DataStreamMarshaller**

  *Base class for all classes that **marshal** (p. 83) **commands** (p. 61) for Openwire.*

- class **PrimitiveTypesMarshaller**

  *This class wraps the functionality needed to **marshal** (p. 83) a primitive map to the Openwire Format's expectation of what the map looks like on the wire.*

5.23 activemq::wireformat::openwire::marshal::generated Namespace Reference

Data Structures

- class **ActiveMQBlobMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQBlobMessageMarshaller*** *(p. 209).*

- class **ActiveMQBytesMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQBytesMessageMarshaller*** *(p. 228).*

- class **ActiveMQDestinationMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQDestinationMarshaller*** *(p. 331).*

- class **ActiveMQMapMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQMapMessageMarshaller*** *(p. 355).*

- class **ActiveMQMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQMessageMarshaller*** *(p. 366).*

- class **ActiveMQObjectMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQObjectMessageMarshaller*** *(p. 383).*

- class **ActiveMQQueueMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQQueueMarshaller*** *(p. 423).*

- class **ActiveMQStreamMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQStreamMessageMarshaller*** *(p. 483).*

- class **ActiveMQTempDestinationMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQTempDestinationMarshaller*** *(p. 492).*

- class **ActiveMQTempQueueMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQTempQueueMarshaller*** *(p. 500).*

- class **ActiveMQTempTopicMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQTempTopicMarshaller*** *(p. 508).*

- class **ActiveMQTextMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQTextMessageMarshaller*** *(p. 517).*

- class **ActiveMQTopicMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTopicMarshaller** (p. 525).*

- class **BaseCommandMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **BaseCommandMarshaller** (p. 636).*

- class **BrokerIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **BrokerIdMarshaller** (p. 713).*

- class **BrokerInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **BrokerInfoMarshaller** (p. 725).*

- class **ConnectionControlMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConnectionControlMarshaller** (p. 1096).*

- class **ConnectionErrorMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConnectionErrorMarshaller** (p. 1104).*

- class **ConnectionIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConnectionIdMarshaller** (p. 1119).*

- class **ConnectionInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConnectionInfoMarshaller** (p. 1130).*

- class **ConsumerControlMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConsumerControlMarshaller** (p. 1163).*

- class **ConsumerIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConsumerIdMarshaller** (p. 1172).*

- class **ConsumerInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConsumerInfoMarshaller** (p. 1185).*

- class **ControlCommandMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ControlCommandMarshaller** (p. 1193).*

- class **DataArrayResponseMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **DataArrayResponseMarshaller** (p. 1235).*

- class **DataResponseMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **DataResponseMarshaller** (p. 1277).*

- class **DestinationInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **DestinationInfoMarshaller** (p. 1380).*

- class **DiscoveryEventMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **DiscoveryEventMarshaller** (p. 1395).*

- class **ExceptionResponseMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ExceptionResponseMarshaller** (p. 1456).*

- class **FlushCommandMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **FlushCommandMarshaller** (p. 1552).*

- class **IntegerResponseMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **IntegerResponseMarshaller** (p. 1743).*

- class **JournalQueueAckMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **JournalQueueAckMarshaller** (p. 1794).*

- class **JournalTopicAckMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **JournalTopicAckMarshaller** (p. 1803).*

- class **JournalTraceMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **JournalTraceMarshaller** (p. 1810).*

- class **JournalTransactionMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **JournalTransactionMarshaller** (p. 1817).*

- class **KeepAliveInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **KeepAliveInfoMarshaller** (p. 1824).*

- class **LastPartialCommandMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **LastPartialCommandMarshaller** (p. 1838).*

- class **LocalTransactionIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **LocalTransactionIdMarshaller** (p. 1907).*

- class **MarshallerFactory**

  Used to create marshallers for a specific version of the wire protocol.

- class **MessageAckMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **MessageAckMarshaller** (p. 2109).*

- class **MessageDispatchMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **MessageDispatchMarshaller** (p. 2142).*

- class **MessageDispatchNotificationMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **MessageDispatchNotificationMarshaller** (p. 2151).*

- class **MessageIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **MessageIdMarshaller** (p. 2166).*

- class **MessageMarshaller**

Marshaling ***code*** *(p. 999) for Open Wire Format for* ***MessageMarshaller*** *(p. 2171).*

- class **MessagePullMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***MessagePullMarshaller*** *(p. 2202).*

- class **NetworkBridgeFilterMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***NetworkBridgeFilterMarshaller*** *(p. 2237).*

- class **PartialCommandMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***PartialCommandMarshaller*** *(p. 2345).*

- class **ProducerAckMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ProducerAckMarshaller*** *(p. 2445).*

- class **ProducerIdMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ProducerIdMarshaller*** *(p. 2457).*

- class **ProducerInfoMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ProducerInfoMarshaller*** *(p. 2466).*

- class **RemoveInfoMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***RemoveInfoMarshaller*** *(p. 2561).*

- class **RemoveSubscriptionInfoMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***RemoveSubscriptionInfoMarshaller*** *(p. 2570).*

- class **ReplayCommandMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ReplayCommandMarshaller*** *(p. 2578).*

- class **ResponseMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ResponseMarshaller*** *(p. 2602).*

- class **SessionIdMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***SessionIdMarshaller*** *(p. 2684).*

- class **SessionInfoMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***SessionInfoMarshaller*** *(p. 2692).*

- class **ShutdownInfoMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ShutdownInfoMarshaller*** *(p. 2737).*

- class **SubscriptionInfoMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***SubscriptionInfoMarshaller*** *(p. 2934).*

- class **TransactionIdMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***TransactionIdMarshaller*** *(p. 3086).*

- class **TransactionInfoMarshaller**

*Marshaling **code** (p. 999) for Open Wire Format for **TransactionInfoMarshaller** (p. 3094).*

- class **WireFormatInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **WireFormatInfoMarshaller** (p. 3227).*

- class **XATransactionIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **XATransactionIdMarshaller** (p. 3270).*

5.24 activemq::wireformat::openwire::utils Namespace Reference

Data Structures

- class **BooleanStream**

  Manages the writing and reading of boolean data streams to and from a data source such as a DataInputStream or DataOutputStream.

- class **HexTable**

  *The **HexTable** (p. 1632) class maps hexidecimal strings to the value of an index into the table, i.e.*

- class **MessagePropertyInterceptor**

  Used the base ActiveMQMessage class to intercept calls to get and set properties in order to capture the calls that use the reserved JMS properties and get and set them in the OpenWire Message properties.

5.25 activemq::wireformat::stomp Namespace Reference

Data Structures

- class **StompCommandConstants**
- class **StompFrame**

  A Stomp-level message frame that encloses all messages to and from the broker.

- class **StompHelper**

  Utility Methods used when marshaling to and from StompFrame's.

- class **StompWireFormat**
- class **StompWireFormatFactory**

  Factory used to create the Stomp Wire Format instance.

5.26 cms Namespace Reference

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Data Structures

- class **AsyncCallback**

  Asynchronous event interface for CMS asynchronous operations.

- class **BytesMessage**

  *A **BytesMessage** (p. 851) object is used to send a message containing a stream of unsigned bytes.*

- class **Closeable**

  Interface for a class that implements the close method.

- class **CMSException**

  CMS API Exception that is the base for all exceptions thrown from CMS classes.

- class **CMSProperties**

  Interface for a Java-like properties object.

- class **CMSSecurityException**

  This exception must be thrown when a provider rejects a user name/password submitted by a client.

- class **Connection**

  The client's connection to its provider.

- class **ConnectionFactory**

  *Defines the interface for a factory that creates connection objects, the **Connection** (p. 1083) objects returned implement the CMS **Connection** (p. 1083) interface and hide the CMS Provider specific implementation details behind that interface.*

- class **ConnectionMetaData**

  *A **ConnectionMetaData** (p. 1134) object provides information describing the **Connection** (p. 1083) object.*

- class **DeliveryMode**

  This is an Abstract class whose purpose is to provide a container for the delivery mode enumeration for CMS messages.

- class **Destination**

  *A **Destination** (p. 1371) object encapsulates a provider-specific address.*

- class **ExceptionListener**

  If a CMS provider detects a serious problem, it notifies the client application through an `ExceptionListener` (p. 1452) that is registered with the `Connection` (p. 1083).

- class **IllegalStateException**

  This exception is thrown when a method is invoked at an illegal or inappropriate time or if the provider is not in an appropriate state for the requested operation.

- class **InvalidClientIdException**

  This exception must be thrown when a client attempts to set a connection's client ID to a value that is rejected by a provider.

- class **InvalidDestinationException**

  This exception must be thrown when a destination either is not understood by a provider or is no longer valid.

- class **InvalidSelectorException**

  This exception must be thrown when a CMS client attempts to give a provider a message selector with invalid syntax.

- class **MapMessage**

  *A **MapMessage** (p. 2011) object is used to send a set of name-value pairs.*

- class **Message**

  Root of all messages.

- class **MessageAvailableListener**

  *A listener interface similar to the **MessageListener** (p. 2170) interface.*

- class **MessageConsumer**

  A client uses a `MessageConsumer` (p. 2114) to received messages from a destination.

- class **MessageEnumeration**

  Defines an object that enumerates a collection of Messages.

- class **MessageEOFException**

  *This exception must be thrown when an unexpected end of stream has been reached when a **StreamMessage** (p. 2907) or **BytesMessage** (p. 851) is being read.*

- class **MessageFormatException**

  This exception must be thrown when a CMS client attempts to use a data type not supported by a message or attempts to read data in a message as the wrong type.

- class **MessageListener**

  A `MessageListener` (p. 2170) object is used to receive asynchronously delivered messages.

- class **MessageNotReadableException**

  This exception must be thrown when a CMS client attempts to read a write-only message.

- class **MessageNotWriteableException**

  This exception must be thrown when a CMS client attempts to write to a read-only message.

- class **MessageProducer**

  *A client uses a `MessageProducer` (p. 2179) object to send messages to a **Destination** (p. 1371).*

- class **MessageTransformer**

  Provides an interface for clients to transform ***cms::Message*** *(p. 2077) objects inside the CMS* ***MessageProducer*** *(p. 2179) and* ***MessageConsumer*** *(p. 2114) objects before the message's are sent or received.*

- class **ObjectMessage**

  Place holder for interaction with JMS systems that support Java, the C++ client is not responsible for deserializing the contained Object.

- class **Queue**

  An interface encapsulating a provider-specific queue name.

- class **QueueBrowser**

  This class implements in interface for browsing the messages in a ***Queue*** *(p. 2499) without removing them.*

- class **ResourceAllocationException**

  This exception is thrown when an operation is invalid because a transaction is in progress.

- class **Session**

  A ***Session*** *(p. 2665) object is a single-threaded context for producing and consuming messages.*

- class **Startable**

  Interface for a class that implements the start method.

- class **Stoppable**

  Interface for a class that implements the stop method.

- class **StreamMessage**

  Interface for a ***StreamMessage*** *(p. 2907).*

- class **TemporaryQueue**

  Defines a Temporary ***Queue*** *(p. 2499) based* ***Destination*** *(p. 1371).*

- class **TemporaryTopic**

  Defines a Temporary ***Topic*** *(p. 3080) based* ***Destination*** *(p. 1371).*

- class **TextMessage**

  Interface for a text message.

- class **Topic**

  An interface encapsulating a provider-specific topic name.

- class **TransactionInProgressException**

  This exception is thrown when an operation is invalid because a transaction is in progress.

- class **TransactionRolledBackException**

  This exception must be thrown when a call to ***Session.commit*** *(p. 2669) results in a rollback of the current transaction.*

- class **UnsupportedOperationException**

This exception must be thrown when a CMS client attempts use a CMS method that is not implemented or not supported by the CMS Provider in use.

- class **XAConnection**

  *The **XAConnection** (p. 3245) interface defines an extended **Connection** (p. 1083) type that is used to create **XASession** (p. 3262) objects.*

- class **XAConnectionFactory**

  *The **XAConnectionFactory** (p. 3246) interface is specialized interface that defines an **ConnectionFactory** (p. 1108) that creates **Connection** (p. 1083) instance that will participate in XA Transactions.*

- class **XAException**

  *The **XAException** (p. 3249) is thrown by the Resource Manager (RM) to inform the Transaction Manager of an error encountered by the involved transaction.*

- class **XAResource**

  *The **XAResource** (p. 3255) interface is a CMS mapping of the industry standard XA interface based on the X/Open CAE Specification (Distributed Transaction Processing: The XA Specification).*

- class **XASession**

  *The **XASession** (p. 3262) interface extends the capability of **Session** (p. 2665) by adding access to a CMS provider's support for the operating inside an XA Transaction (optional).*

- class **Xid**

  An interface which provides a mapping for the X/Open XID transaction identifier structure.

5.26.1 Detailed Description

5.27 decaf Namespace Reference

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Namespaces

- namespace **internal**
- namespace **io**
- namespace **lang**
- namespace **net**
- namespace **nio**
- namespace **security**
- namespace **util**

5.27.1 Detailed Description

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5.28 decaf::internal Namespace Reference

Namespaces

- namespace **io**
- namespace **net**
- namespace **nio**
- namespace **security**
- namespace **util**

Data Structures

- class **AprPool**

  Wraps an APR pool object so that classes in ***decaf*** *(p. 95) can create a static member for use in static methods where apr function calls that need a pool are made.*

- class **DecafRuntime**

  Handles APR initialization and termination.

5.29 decaf::internal::io Namespace Reference

Data Structures

- class **StandardErrorOutputStream**

  Wrapper Around the Standard error Output facility on the current platform.

- class **StandardInputStream**
- class **StandardOutputStream**

5.30 decaf::internal::net Namespace Reference

Namespaces

- namespace **ssl**
- namespace **tcp**

Data Structures

- class **DefaultServerSocketFactory**

  Default implementation of the Decaf ServerSocketFactory, creates ServerSocket objects with supplied options.

- class **DefaultSocketFactory**

  SocketFactory implementation that is used to create Sockets.

- class **Network**

  Internal class used to manage Networking related resources and hide platform dependent calls from the higher level API.

- class **SocketFileDescriptor**

  File Descriptor type used internally by Decaf Socket objects.

- class **URIEncoderDecoder**
- class **URIHelper**

  Helper class used by the URI classes in encoding and decoding of URI's.

- class **URIType**

  Basic type object that holds data that composes a given URI.

5.31 decaf::internal::net::ssl Namespace Reference

Namespaces

- namespace **openssl**

Data Structures

- class **DefaultSSLContext**

  Default SSLContext manager for the Decaf library.

- class **DefaultSSLServerSocketFactory**

  Default implementation of the SSLServerSocketFactory, this factory throws an Exception from all its create methods to indicate that SSL is not supported, this factory is used when OpenSSL is not enabled in the builds.

- class **DefaultSSLSocketFactory**

  Default implementation of the SSLSocketFactory, this factory throws an Exception from all its create methods to indicate that SSL is not supported, this factory is used when OpenSSL is not enabled in the builds.

5.32 decaf::internal::net::ssl::openssl Namespace Reference

Data Structures

- class **OpenSSLContextSpi**

  Provides an SSLContext that wraps the OpenSSL API.

- class **OpenSSLParameters**

  Container class for parameters that are Common to OpenSSL socket classes.

- class **OpenSSLServerSocket**

  SSLServerSocket based on OpenSSL library ***code*** *(p. 999).*

- class **OpenSSLServerSocketFactory**

  SSLServerSocketFactory that creates Server Sockets that use OpenSSL.

- class **OpenSSLSocket**

  Wraps a a Normal Socket object and extends or overrides functions in that class to make use of the OpenSSL Socket API.

- class **OpenSSLSocketException**

  Subclass of the standard SocketException that knows how to produce an error message from the OpenSSL error stack.

- class **OpenSSLSocketFactory**

  Client Socket Factory that creates SSL based client sockets using the OpenSSL library.

- class **OpenSSLSocketInputStream**

  An output stream for reading data from an OpenSSL Socket instance.

- class **OpenSSLSocketOutputStream**

  OutputStream implementation used to write data to an ***OpenSSLSocket*** *(p. 2280) instance.*

5.33 decaf::internal::net::tcp Namespace Reference

Data Structures

- class **TcpSocket**

  Platform-independent implementation of the socket interface.

- class **TcpSocketInputStream**

  Input stream for performing reads on a socket.

- class **TcpSocketOutputStream**

  Output stream for performing write operations on a socket.

5.34 decaf::internal::nio Namespace Reference

Data Structures

- class **BufferFactory**

  Factory class used by static methods in the ***decaf::nio*** *(p. 119) package to create the various default version of the NIO interfaces.*

- class **ByteArrayBuffer**

  This class defines six categories of operations upon byte buffers:.

- class **CharArrayBuffer**
- class **DoubleArrayBuffer**
- class **FloatArrayBuffer**
- class **IntArrayBuffer**
- class **LongArrayBuffer**
- class **ShortArrayBuffer**

5.35 decaf::internal::security Namespace Reference

Namespaces

- namespace **provider**

Data Structures

- class **Engine**

  *The **Engine** (p. 1437) class serves as a convenience class for classes in the Decaf Security package.*

- class **SecurityRuntime**

  Internal class used to manage Security related resources and hide platform dependent calls from the higher level API.

- class **ServiceRegistry**

  Serves as a registry for all the Providers for services using the naming format of "Service-Name.Algorithm".

- class **SecureRandomImpl**

  Secure Random Number Generator for Unix based platforms that attempts to obtain secure bytes with high entropy from known sources.

5.36 decaf::internal::security::provider Namespace Reference

Namespaces

- namespace **crypto**

Data Structures

- class **DefaultMessageDigestProviderService**

  *Decaf's Default Message Digest Security **provider** (p. 104) used to create instances of the built-in Message Digest algorithm SPI classes.*

- class **DefaultProvider**

  Implements the Security Provider interface for the Decaf library.

- class **DefaultSecureRandomProviderService**

  *Decaf's Default Secure Random Security **provider** (p. 104) used to create instances of the built-in Secure Random algorithm SPI classes.*

5.37 decaf::internal::security::provider::crypto Namespace Reference

Data Structures

- class **MD4MessageDigestSpi**
  MD4 MessageDigestSpi.
- class **MD5MessageDigestSpi**
  MD5 MessageDigestSpi.
- class **SHA1MessageDigestSpi**
  SHA1 MessageDigestSpi.

5.38 decaf::internal::util Namespace Reference

Namespaces

- namespace **concurrent**

Data Structures

- class **ByteArrayAdapter**

  This class adapts primitive type arrays to a base byte array so that the classes can inter-operate on the same base byte array without copying data.

- class **GenericResource**

  A Generic ***Resource*** *(p. 2584) wraps some type and will delete it when the* ***Resource*** *(p. 2584) itself is deleted.*

- class **HexStringParser**
- class **Resource**

  Interface for all Managed Resources in Decaf, these objects are added to the Runtime System and are destroyed at shutdown.

- class **ResourceLifecycleManager**
- class **StringUtils**
- class **TimerTaskHeap**

  A Binary Heap implemented specifically for the Timer class in Decaf Util.

5.39 decaf::internal::util::concurrent Namespace Reference

Data Structures

- class **Atomics**
- class **ExecutorsSupport**

  Various support methods for use in Executors and surrounding classes.

- class **PlatformThread**
- class **SynchronizableImpl**

  A convenience class used by some Decaf classes to implement the Synchronizable interface when there is no issues related to multiple inheritance.

- class **Threading**
- struct **ThreadHandle**
- struct **MonitorHandle**
- class **CompletionCondition**
- class **ThreadLocalImpl**
- class **Transferer**

  *Shared **internal** (p. 96) API for dual stacks and queues.*

- class **TransferQueue**

  This extends Scherer-Scott dual queue algorithm, differing, among other ways, by using modes within nodes rather than marked pointers.

- class **TransferStack**
- struct **RWLOCK**

Typedefs

- typedef PLATFORM_THREAD_CALLBACK_TYPE(PLATFORM_CALLING_CONV * **threadMainMethod**)(**PLATFORM_THREAD_ENTRY_ARG**)

  *This is the main method for thread instances, this value is valid on any platform, the **PlatformThread** (p. 2349) methods will handle calling this method and providing it with its assigned arg.*

- typedef void(* **threadingTask**)(void *)

  *The **ThreadHandle** (p. 3014) contains one of these and it should be the method that does the actual work for the thread.*

- typedef void * **PLATFORM_THREAD_ENTRY_ARG**
- typedef pthread_t **decaf_thread_t**
- typedef pthread_key_t **decaf_tls_key**
- typedef pthread_cond_t * **decaf_condition_t**
- typedef pthread_mutex_t * **decaf_mutex_t**
- typedef pthread_rwlock_t * **decaf_rwmutex_t**

5.39.1 Typedef Documentation

5.39.1.1 typedef HANDLE decaf::internal::util::concurrent::decaf_condition_t

5.39.1.2 typedef LPCRITICAL_SECTION decaf::internal::util::concurrent::decaf_mutex_t

5.39.1.3 typedef RWLOCK * decaf::internal::util::concurrent::decaf_rwmutex_t

5.39.1.4 typedef HANDLE decaf::internal::util::concurrent::decaf_thread_t

5.39.1.5 typedef DWORD decaf::internal::util::concurrent::decaf_tls_key

5.39.1.6 typedef void * decaf::internal::util::concurrent::PLATFORM_THREAD_ENTRY_ARG

5.39.1.7 typedef void(* decaf::internal::util::concurrent::threadingTask)(void *)

The **ThreadHandle** (p. 3014) contains one of these and it should be the method that does the actual work for the thread.

5.39.1.8 typedef PLATFORM_THREAD_CALLBACK_TYPE(PLATFORM_CALLING_CONV * decaf::internal::util::concurrent::threadMainMethod)(PLATFORM_THREAD_ENTRY_ARG)

This is the main method for thread instances, this value is valid on any platform, the **PlatformThread** (p. 2349) methods will handle calling this method and providing it with its assigned arg.

Parameters:

arg A void* that was given when the thread was started.

5.40 decaf::io Namespace Reference

Data Structures

- class **BlockingByteArrayInputStream**

  This is a blocking version of a byte buffer stream.

- class **BufferedInputStream**

  A wrapper around another input stream that performs a buffered read, where it reads more data than it needs in order to reduce the number of ***io*** *(p. 109) operations on the input stream.*

- class **BufferedOutputStream**

  Wrapper around another output stream that buffers output before writing to the target output stream.

- class **ByteArrayInputStream**

  A ***ByteArrayInputStream*** *(p. 817) contains an* ***internal*** *(p. 96) buffer that contains bytes that may be read from the stream.*

- class **ByteArrayOutputStream**
- class **Closeable**

  Interface for a class that implements the close method.

- class **DataInput**

  The ***DataInput*** *(p. 1249) interface provides for reading bytes from a binary stream and reconstructing from them data in any of the C++ primitive types.*

- class **DataInputStream**

  A data input stream lets an application read primitive Java data types from an underlying input stream in a machine-independent way.

- class **DataOutput**

  The ***DataOutput*** *(p. 1265) interface provides for converting data from any of the C++ primitive types to a series of bytes and writing these bytes to a binary stream.*

- class **DataOutputStream**

  A data output stream lets an application write primitive Java data types to an output stream in a portable way.

- class **EOFException**
- class **FileDescriptor**

  This class servers as an opaque wrapper around an underlying OS level resource that can be used as a source / sink for byte level data such as sockets and files.

- class **FilterInputStream**

  A ***FilterInputStream*** *(p. 1508) contains some other input stream, which it uses as its basic source of data, possibly transforming the data along the way or providing additional functionality.*

- class **FilterOutputStream**

  This class is the superclass of all classes that filter output streams.

- class **Flushable**

  *A **Flushable** (p. 1548) is a destination of data that can be flushed.*

- class **InputStream**

  A base class that must be implemented by all classes wishing to provide a class that reads in a stream of bytes.

- class **InputStreamReader**

  *An **InputStreamReader** (p. 1704) is a bridge from byte streams to character streams.*

- class **InterruptedIOException**
- class **IOException**
- class **OutputStream**

  Base interface for any class that wants to represent an output stream of bytes.

- class **OutputStreamWriter**

  A class for turning a character stream into a byte stream.

- class **PushbackInputStream**

  *A **PushbackInputStream** (p. 2493) adds functionality to another input stream, namely the ability to "push back" or "unread" one byte.*

- class **Reader**
- class **UnsupportedEncodingException**

  Thrown when the the Character Encoding is not supported.

- class **UTFDataFormatException**

  Thrown from classes that attempt to read or write a UTF-8 encoded string and an encoding error is encountered.

- class **Writer**

5.41 decaf::lang Namespace Reference

Namespaces

- namespace **exceptions**

Data Structures

- class **Appendable**

  An object to which char sequences and values can be appended.

- class **ArrayPointer**

  Decaf's implementation of a Smart ***Pointer*** *(p. 2355) that is a template on a Type and is* ***Thread*** *(p. 3000) Safe if the default Reference Counter is used.*

- class **ArrayPointerComparator**

  This implementation of Comparator is designed to allows objects in a Collection to be sorted or tested for equality based on the value of the value of the actual pointer to the array being contained in this ***ArrayPointer*** *(p. 593).*

- class **Boolean**
- class **Byte**
- class **Character**
- class **CharSequence**

  A ***CharSequence*** *(p. 943) is a readable sequence of char values.*

- class **Comparable**

  This interface imposes a total ordering on the objects of each class that implements it.

- class **Double**
- class **Exception**
- class **Float**
- class **Integer**
- class **Iterable**

  Implementing this interface allows an object to be cast to an ***Iterable*** *(p. 1786) type for generic collections API calls.*

- class **Long**
- class **Math**

  The class `Math` *(p. 2030) contains methods for performing basic numeric operations such as the elementary exponential, logarithm, square root, and trigonometric functions.*

- class **Number**

  The abstract class ***Number*** *(p. 2256) is the superclass of classes* ***Byte*** *(p. 760),* ***Double*** *(p. 1402),* ***Float*** *(p. 1518),* ***Integer*** *(p. 1725),* ***Long*** *(p. 1954), and* ***Short*** *(p. 2706).*

- struct **STATIC_CAST_TOKEN**
- struct **DYNAMIC_CAST_TOKEN**
- class **Pointer**

  Decaf's implementation of a Smart ***Pointer*** *(p. 2355) that is a template on a Type and is* ***Thread*** *(p. 3000) Safe if the default Reference Counter is used.*

- class **PointerComparator**

  This implementation of Comparator is designed to allows objects in a Collection to be sorted or tested for equality based on the value of the Object being Pointed to and not the value of the contained pointer in the ***Pointer*** *(p. 2355) instance.*

- class **Readable**

  A ***Readable*** *(p. 2511) is a source of characters.*

- class **Runnable**

  Interface for a runnable object - defines a task that can be run by a thread.

- class **Runtime**
- class **Short**
- class **String**

  The ***String*** *(p. 2919) class represents an immutable sequence of chars.*

- class **System**

  The ***System*** *(p. 2963) class provides static methods for accessing system level resources and performing some system dependent tasks such as looking up environment values and copying memory and arrays.*

- class **Thread**

  A ***Thread*** *(p. 3000) is a concurrent unit of execution.*

- class **ThreadGroup**
- class **ThreadLocal**

  This class provides thread-local variables.

- class **Throwable**

  This class represents an error that has occurred.

- class **Types**

Functions

- template<typename T , typename U >
  bool **operator==** (const **ArrayPointer**< T > &left, const U *right)
- template<typename T , typename U >
  bool **operator==** (const U *left, const **ArrayPointer**< T > &right)
- template<typename T , typename U >
  bool **operator!=** (const **ArrayPointer**< T > &left, const U *right)
- template<typename T , typename U >
  bool **operator!=** (const U *left, const **ArrayPointer**< T > &right)
- template<typename T , typename R , typename U >
  bool **operator==** (const **Pointer**< T, R > &left, const U *right)
- template<typename T , typename R , typename U >
  bool **operator==** (const U *left, const **Pointer**< T, R > &right)
- template<typename T , typename R , typename U >
  bool **operator!=** (const **Pointer**< T, R > &left, const U *right)

- template<typename T , typename R , typename U >
  bool **operator!**= (const U *left, const **Pointer**< T, R > &right)
- template<typename T , typename R >
  std::ostream & **operator**<< (std::ostream &out, const **Pointer**< T, R > &pointer)

5.41.1 Function Documentation

5.41.1.1 template<typename T , typename R , typename U > bool decaf::lang::operator!= (const U * *left*, const Pointer< T, R > & *right*) [inline]

References decaf::lang::Pointer< T, REFCOUNTER >::get().

5.41.1.2 template<typename T , typename R , typename U > bool decaf::lang::operator!= (const Pointer< T, R > & *left*, const U * *right*) [inline]

References decaf::lang::Pointer< T, REFCOUNTER >::get().

5.41.1.3 template<typename T , typename U > bool decaf::lang::operator!= (const U * *left*, const ArrayPointer< T > & *right*) [inline]

References decaf::lang::ArrayPointer< T >::get().

5.41.1.4 template<typename T , typename U > bool decaf::lang::operator!= (const ArrayPointer< T > & *left*, const U * *right*) [inline]

References decaf::lang::ArrayPointer< T >::get().

5.41.1.5 template<typename T , typename R > std::ostream& decaf::lang::operator<< (std::ostream & *out*, const Pointer< T, R > & *pointer*) [inline]

5.41.1.6 template<typename T , typename R , typename U > bool decaf::lang::operator== (const U * *left*, const Pointer< T, R > & *right*) [inline]

References decaf::lang::Pointer< T, REFCOUNTER >::get().

5.41.1.7 template<typename T , typename R , typename U > bool decaf::lang::operator== (const Pointer< T, R > & *left*, const U * *right*) [inline]

References decaf::lang::Pointer< T, REFCOUNTER >::get().

5.41.1.8 template<typename T , typename U > bool decaf::lang::operator== (const U * *left*, const ArrayPointer< T > & *right*) [inline]

References decaf::lang::ArrayPointer< T >::get().

5.41.1.9 template<typename T , typename U > bool decaf::lang::operator== (const ArrayPointer< T > & *left*, const U * *right*) [inline]

References decaf::lang::ArrayPointer< T >::get().

5.42 decaf::lang::exceptions Namespace Reference

Data Structures

- class **ClassCastException**
- class **CloneNotSupportedException**
- class **IllegalArgumentException**
- class **IllegalMonitorStateException**
- class **IllegalStateException**
- class **IllegalThreadStateException**
- class **IndexOutOfBoundsException**
- class **InterruptedException**
- class **InvalidStateException**
- class **NegativeArraySizeException**
- class **NullPointerException**
- class **NumberFormatException**
- class **OutOfMemoryError**
- class **RuntimeException**
- class **UnsupportedOperationException**

5.43 decaf::net Namespace Reference

Namespaces

- namespace **ssl**

Data Structures

- class **BindException**
- class **ConnectException**
- class **DatagramPacket**

  Class that represents a single datagram packet.

- class **HttpRetryException**
- class **Inet4Address**
- class **Inet6Address**
- class **InetAddress**

  Represents an IP address.

- class **InetSocketAddress**
- class **MalformedURLException**
- class **NoRouteToHostException**
- class **PortUnreachableException**
- class **ProtocolException**
- class **ServerSocket**

  This class implements server sockets.

- class **ServerSocketFactory**

  Class used to create Server Sockets, subclasses can be created that create certain types of server sockets according to specific policies.

- class **Socket**
- class **SocketAddress**

  *Base class for protocol specific **Socket** (p. 2755) addresses.*

- class **SocketError**

  Static utility class to simplify handling of error codes for socket operations.

- class **SocketException**

  Exception for errors when manipulating sockets.

- class **SocketFactory**

  *The **SocketFactory** (p. 2774) is used to create **Socket** (p. 2755) objects and can be sub-classed to provide other types of Sockets or Sockets with varying configurations.*

- class **SocketImpl**

  *Acts as a base class for all physical **Socket** (p. 2755) implementations.*

- class **SocketImplFactory**

  Factory class interface for a Factory that creates ScoketImpl objects.

- class **SocketOptions**
- class **SocketTimeoutException**
- class **UnknownHostException**
- class **UnknownServiceException**
- class **URI**

  *This class represents an instance of a **URI** (p. 3152) as defined by RFC 2396.*

- class **URISyntaxException**
- class **URL**

  *Class **URL** (p. 3194) represents a Uniform Resource Locator, a pointer to a "resource" on the World Wide Web.*

- class **URLDecoder**
- class **URLEncoder**

5.44 decaf::net::ssl Namespace Reference

Data Structures

- class **SSLContext**

  Represents on implementation of the Secure ***Socket*** *(p. 2755) Layer for streaming based sockets.*

- class **SSLContextSpi**

  Defines the interface that should be provided by an ***SSLContext*** *(p. 2795) provider.*

- class **SSLParameters**
- class **SSLServerSocket**

  Represents a server socket that is used to accept connections from clients using the Secure Sockets protocol or the Top Level Security protocol.

- class **SSLServerSocketFactory**

  Factory class interface that provides methods to create SSL Server Sockets.

- class **SSLSocket**
- class **SSLSocketFactory**

  Factory class interface for a ***SocketFactory*** *(p. 2774) that can create* ***SSLSocket*** *(p. 2813) objects.*

5.45 decaf::nio Namespace Reference

Data Structures

- class **Buffer**

  A container for data of a specific primitive type.

- class **BufferOverflowException**
- class **BufferUnderflowException**
- class **ByteBuffer**

  This class defines six categories of operations upon byte buffers:.

- class **CharBuffer**

  This class defines four categories of operations upon character buffers:.

- class **DoubleBuffer**

  This class defines four categories of operations upon double buffers:.

- class **FloatBuffer**

  This class defines four categories of operations upon float buffers:.

- class **IntBuffer**

  This class defines four categories of operations upon int buffers:.

- class **InvalidMarkException**
- class **LongBuffer**

  This class defines four categories of operations upon long long buffers:.

- class **ReadOnlyBufferException**
- class **ShortBuffer**

  This class defines four categories of operations upon short buffers:.

5.46 decaf::security Namespace Reference

Namespaces

- namespace **auth**
- namespace **cert**

Data Structures

- class **DigestException**
- class **GeneralSecurityException**
- class **InvalidKeyException**
- class **Key**

  *The **Key** (p. 1828) interface is the top-level interface for all keys.*

- class **KeyException**
- class **KeyManagementException**
- class **MessageDigest**

  *This **MessageDigest** (p. 2121) class provides applications the functionality of a message digest algorithm, such as MD5 or SHA.*

- class **MessageDigestSpi**

  *This class defines the Service **Provider** (p. 2485) Interface (SPI) for the **MessageDigest** (p. 2121) class, which provides the functionality of a message digest algorithm, such as MD5 or SHA.*

- class **NoSuchAlgorithmException**
- class **NoSuchProviderException**
- class **Principal**

  Base interface for a principal, which can represent an individual or organization.

- class **Provider**

  *This class represents a "provider" for the Decaf **Security** (p. 2628) API, where a provider implements some or all parts of Decaf **Security** (p. 2628).*

- class **ProviderException**
- class **ProviderService**
- class **PublicKey**

  A public key.

- class **SecureRandom**
- class **SecureRandomSpi**

  *Interface class used by **Security** (p. 2628) Service Providers to implement a source of secure random bytes.*

- class **Security**
- class **SecuritySpi**

  *Base class used as a Marker for all **Security** (p. 2628) **Provider** (p. 2485) Interface classes in the Decaf **Security** (p. 2628) API.*

- class **SignatureException**

5.47 decaf::security::auth Namespace Reference

Namespaces

- namespace **x500**

5.48 decaf::security::auth::x500 Namespace Reference

Data Structures

- class **X500Principal**

5.49 decaf::security::cert Namespace Reference

Data Structures

- class **Certificate**

  Base interface for all identity certificates.

- class **CertificateEncodingException**
- class **CertificateException**
- class **CertificateExpiredException**
- class **CertificateNotYetValidException**
- class **CertificateParsingException**
- class **X509Certificate**

  Base interface for all identity certificates.

5.50 decaf::util Namespace Reference

Namespaces

- namespace **comparators**
- namespace **concurrent**
- namespace **logging**
- namespace **zip**

Data Structures

- class **AbstractCollection**

  *This class provides a skeletal implementation of the **Collection** (p. 1000) interface, to minimize the effort required to implement this interface.*

- class **AbstractList**

  *This class provides a skeletal implementation of the **List** (p. 1889) interface to minimize the effort required to implement this interface backed by a "random access" data store (such as an array).*

- class **AbstractMap**

  *This class provides a skeletal implementation of the **Map** (p. 1995) interface, to minimize the effort required to implement this interface.*

- class **AbstractQueue**

  *This class provides skeletal implementations of some **Queue** (p. 2500) operations.*

- class **AbstractSequentialList**

  *This class provides a skeletal implementation of the **List** (p. 1889) interface to minimize the effort required to implement this interface backed by a "sequential access" data store (such as a linked list).*

- class **AbstractSet**

  *This class provides a skeletal implementation of the **Set** (p. 2700) interface to minimize the effort required to implement this interface.*

- class **ArrayList**
- class **Arrays**
- class **BitSet**

  This class implements a vector of bits that grows as needed.

- class **Collection**

  The root interface in the collection hierarchy.

- class **Collections**
- class **Comparator**

  A comparison function, which imposes a total ordering on some collection of objects.

- class **ConcurrentModificationException**
- class **Date**

Wrapper class around a time value in milliseconds.

- class **Deque**

  Defines a 'Double ended Queue' interface that allows for insertion and removal of elements from both ends.

- struct **HashCodeUnaryBase**
- struct **HashCode**

  *Base **HashCode** (p. 1581) template, specializations are created from this to account for the various native types.*

- struct **HashCode< const T >**
- struct **HashCode< T * >**
- struct **HashCode< const T * >**
- struct **HashCode< bool >**
- struct **HashCode< char >**
- struct **HashCode< wchar_t >**
- struct **HashCode< unsigned short >**
- struct **HashCode< short >**
- struct **HashCode< unsigned int >**
- struct **HashCode< int >**
- struct **HashCode< unsigned long long >**
- struct **HashCode< long long >**
- struct **HashCode< float >**
- struct **HashCode< double >**
- struct **HashCode< std::string >**
- struct **HashCode< const std::string >**
- struct **HashCode< decaf::lang::Pointer< T > >**
- class **HashMap**

  *Hash table based implementation of the **Map** (p. 1995) interface.*

- class **HashSet**

  *This class implements the **Set** (p. 2700) interface, backed by a hash table (actually a **HashMap** (p. 1600) instance).*

- class **Iterator**

  Defines an object that can be used to iterate over the elements of a collection.

- class **LinkedHashMap**

  *Hashed and linked list implementation of the **Map** (p. 1995) interface, with predictable iteration order.*

- class **LinkedHashSet**

  *Hash table and linked list implementation of the **Set** (p. 2700) interface, with predictable iteration order.*

- class **LinkedList**

  *A complete implementation of the **List** (p. 1889) interface using a doubly linked list data structure.*

- class **List**

An ordered collection (also known as a sequence).

- class **ListIterator**

  An iterator for lists that allows the programmer to traverse the list in either direction, modify the list during iteration, and obtain the iterator's current position in the list.

- class **LRUCache**

  A Basic Least Recently Used (LRU) Cache ***Map*** (p. *1995*)*.*

- class **Map**

  An object that maps keys to values.

- class **MapEntry**
- class **NoSuchElementException**
- class **PriorityQueueBase**
- class **PriorityQueue**

  An unbounded priority queue based on a binary heap algorithm.

- class **Properties**

  Java-like properties class for mapping string names to string values.

- class **Queue**

  A kind of collection provides advanced operations than other basic collections, such as insertion, extraction, and inspection.

- class **Random**

  Random (p. *2506*) *Value Generator which is used to generate a stream of pseudorandom numbers.*

- class **Set**

  A collection that contains no duplicate elements.

- class **StlList**

  List (p. *1889*) *class that wraps the STL list object to provide a simpler interface and additional methods not provided by the STL type.*

- class **StlMap**

  Map (p. *1995*) *template that wraps around a std::map to provide a more user-friendly interface and to provide common functions that do not exist in std::map.*

- class **StlQueue**

  The ***Queue*** (p. *2500*) *class accepts messages with an psuh(m) command where m is the message to be queued.*

- class **StlSet**

  Set (p. *2700*) *template that wraps around a std::set to provide a more user-friendly interface and to provide common functions that do not exist in std::set.*

- class **StringTokenizer**

  Class that allows for parsing of string based on Tokens.

- class **Timer**

  A facility for threads to schedule tasks for future execution in a background thread.

- class **TimerTask**

  A Base class for a task object that can be scheduled for one-time or repeated execution by a ***Timer*** *(*p. *3055**).*

- class **UUID**

  *A class that represents an immutable universally unique identifier (****UUID*** *(*p. *3203**)).*

5.51 decaf::util::comparators Namespace Reference

Data Structures

- class **Less**

  *Simple **Less*** (p. 1842) ***Comparator*** (p. 1034) *that compares to elements to determine if the first is less than the second.*

5.52 decaf::util::concurrent Namespace Reference

Namespaces

- namespace **atomic**
- namespace **locks**

Data Structures

- class **AbstractExecutorService**

  *Provides a default implementation for the methods of the **ExecutorService** (p. 1471) interface.*

- class **BlockingQueue**

  *A **decaf::util::Queue** (p. 2500) that additionally supports operations that wait for the queue to become non-empty when retrieving an element, and wait for space to become available in the queue when storing an element.*

- class **BrokenBarrierException**
- class **CallableType**

  *Base class of all **Callable<T>** (p. 882) objects, used to allow identification via type casting.*

- class **Callable**

  A task that returns a result and may throw an exception.

- class **CancellationException**
- class **ConcurrentHashMap**
- class **ConcurrentMap**

  *Interface for a **Map** (p. 1995) type that provides additional **atomic** (p. 132) putIfAbsent, remove, and replace methods alongside the already available **Map** (p. 1995) interface.*

- class **ConcurrentStlMap**

  ***Map** (p. 1995) template that wraps around a std::map to provide a more user-friendly interface and to provide common functions that do not exist in std::map.*

- class **CopyOnWriteArrayList**
- class **CopyOnWriteArraySet**

  *Since the **CopyOnWriteArraySet** (p. 1215) and the **CopyOnWriteArrayList** (p. 1197) share much of the same operational semantics this class uses the **CopyOnWriteArrayList** (p. 1197) for all its underlying operations.*

- class **CountDownLatch**
- class **Delayed**

  A mix-in style interface for marking objects that should be acted upon after a given delay.

- class **ExecutionException**
- class **Executor**

  *An object that executes submitted **decaf.lang.Runnable** (p. 2607) tasks.*

- class **Executors**

*Implements a set of utilities for use with **Executors** (p. 1466), **ExecutorService** (p. 1471), **ThreadFactory** (p. 3011), and **Callable** (p. 882) types, as well as providing factory methods for instance of these types configured for the most common use cases.*

- class **ExecutorService**

  *An **Executor** (p. 1463) that provides methods to manage termination and methods that can produce a **Future** (p. 1558) for tracking progress of one or more asynchronous tasks.*

- class **FutureType**
- class **Future**

  *A **Future** (p. 1558) represents the result of an asynchronous computation.*

- class **FutureTask**

  A cancellable asynchronous computation.

- class **LinkedBlockingQueue**

  *A **BlockingQueue** (p. 684) derivative that allows for a bound to be placed on the number of elements that can be enqueued at any one time.*

- class **Lock**

  A wrapper class around a given synchronization mechanism that provides automatic release upon destruction.

- class **Mutex**

  ***Mutex** (p. 2223) object that offers recursive support on all platforms as well as providing the ability to use the standard wait / notify pattern used in languages like Java.*

- class **RejectedExecutionException**
- class **RejectedExecutionHandler**

  *A handler for tasks that cannot be executed by a **ThreadPoolExecutor** (p. 3031).*

- class **RunnableFuture**

  *A Runnable version of the **Future** (p. 1558) type.*

- class **Semaphore**

  A counting semaphore.

- class **Synchronizable**

  The interface for all synchronizable objects (that is, objects that can be locked and unlocked).

- class **SynchronousQueue**

  *A **blocking queue** (p. 684) in which each insert operation must wait for a corresponding remove operation by another thread, and vice versa.*

- class **ThreadFactory**

  *public interface **ThreadFactory** (p. 3011)*

- class **ThreadPoolExecutor**

  Defines a Thread Pool object that implements the functionality of pooling threads to perform user tasks.

- class **TimeoutException**
- class **TimeUnit**

  *A **TimeUnit** (p. 3072) represents time durations at a given unit of granularity and provides utility methods to convert across units, and to perform timing and delay operations in these units.*

5.53 decaf::util::concurrent::atomic Namespace Reference

Data Structures

- class **AtomicBoolean**

  A boolean value that may be updated atomically.

- class **AtomicInteger**

  An int value that may be updated atomically.

- class **AtomicRefCounter**
- class **AtomicReference**

  An Pointer reference that may be updated atomically.

5.54 decaf::util::concurrent::locks Namespace Reference

Data Structures

- class **AbstractOwnableSynchronizer**

  Base class for ***locks*** *(p. 133) that provide the notion of Ownership, the types of* ***locks*** *(p. 133) that are implemented using this base class would be owned by one specific Thread at any given time.*

- class **AbstractQueuedSynchronizer**
- class **Condition**

  Condition *(p. 1071) factors out the* ***Mutex*** *(p. 2223) monitor methods (wait, notify and notifyAll) into distinct objects to give the effect of having multiple wait-sets per object, by combining them with the use of arbitrary* ***Lock*** *(p. 1913) implementations.*

- class **Lock**

  Lock *(p. 1913) implementations provide more extensive locking operations than can be obtained using synchronized statements.*

- class **LockSupport**

  Basic thread blocking primitives for creating ***locks*** *(p. 133) and other synchronization classes.*

- class **ReadWriteLock**

  A ***ReadWriteLock*** *(p. 2523) maintains a pair of associated* ***locks*** *(p. 133), one for read-only operations and one for writing.*

- class **ReentrantLock**

  A reentrant mutual exclusion ***Lock*** *(p. 1913) with extended capabilities.*

- class **ReentrantReadWriteLock**

5.55 decaf::util::logging Namespace Reference

Data Structures

- class **ConsoleHandler**

  *This **Handler** (p. 1577) publishes log records to System.err.*

- class **ErrorManager**

  ***ErrorManager** (p. 1442) objects can be attached to Handlers to process any error that occur on a **Handler** (p. 1577) during Logging.*

- class **Filter**

  *A **Filter** (p. 1507) can be used to provide fine grain control over what is logged, beyond the control provided by log levels.*

- class **Formatter**

  *A **Formatter** (p. 1556) provides support for formatting LogRecords.*

- class **Handler**

  *A **Handler** (p. 1577) object takes log messages from a **Logger** (p. 1922) and exports them.*

- class **Level**

  *The **Level** (p. 1846) class defines a set of standard **logging** (p. 134) levels that can be used to control **logging** (p. 134) output.*

- class **Logger**

  *A **Logger** (p. 1922) object is used to log messages for a specific system or application component.*

- class **LoggerHierarchy**
- class **LogManager**

  *There is a single global **LogManager** (p. 1941) object that is used to maintain a set of shared state about Loggers and log services.*

- class **LogRecord**

  ***LogRecord** (p. 1947) objects are used to pass **logging** (p. 134) requests between the **logging** (p. 134) framework and individual log Handlers.*

- class **LogWriter**
- class **MarkBlockLogger**

  Defines a class that can be used to mark the entry and exit from scoped blocks.

- class **PropertiesChangeListener**

  *Defines the interface that classes can use to listen for change events on **Properties** (p. 2471).*

- class **SimpleFormatter**

  *Print a brief summary of the **LogRecord** (p. 1947) in a human readable format.*

- class **SimpleLogger**
- class **StreamHandler**

  *Stream based **logging** (p. 134) **Handler** (p. 1577).*

- class **XMLFormatter**
  *Format a **LogRecord** (p. 1947) into a standard XML format.*

Enumerations

- enum **Levels** {
  Off, **Null**, **Markblock**, **Debug**,
  Info, **Warn**, **Error**, **Fatal**,
  Throwing }
  Defines an enumeration for logging levels.

5.55.1 Enumeration Type Documentation

5.55.1.1 enum decaf::util::logging::Levels

Defines an enumeration for **logging** (p. 134) levels.

Enumerator:

Off
Null
Markblock
Debug
Info
Warn
Error
Fatal
Throwing

5.56 decaf::util::zip Namespace Reference

Data Structures

- class **Adler32**

  Clas that can be used to compute an Adler-32 ***Checksum*** *(p. 950) for a data stream.*

- class **CheckedInputStream**

  An implementation of a FilterInputStream that will maintain a ***Checksum*** *(p. 950) of the bytes read, the* ***Checksum*** *(p. 950) can then be used to verify the integrity of the input stream.*

- class **CheckedOutputStream**

  An implementation of a FilterOutputStream that will maintain a ***Checksum*** *(p. 950) of the bytes written, the* ***Checksum*** *(p. 950) can then be used to verify the integrity of the output stream.*

- class **Checksum**

  An interface used to represent ***Checksum*** *(p. 950) values in the Zip package.*

- class **CRC32**

  Class that can be used to compute a CRC-32 checksum for a data stream.

- class **DataFormatException**
- class **Deflater**

  This class compresses data using the DEFLATE algorithm (see `specification`*).*

- class **DeflaterOutputStream**

  Provides a FilterOutputStream instance that compresses the data before writing it to the wrapped OutputStream.

- class **Inflater**

  This class uncompresses data that was compressed using the DEFLATE algorithm (see `specification`*).*

- class **InflaterInputStream**

  A FilterInputStream that decompresses data read from the wrapped InputStream instance.

- class **ZipException**

5.57 std Namespace Reference

Data Structures

- struct **less< decaf::lang::ArrayPointer< T > >**

  An override of the less function object so that the Pointer objects can be stored in STL Maps, etc.

- struct **less< decaf::lang::Pointer< T > >**

  An override of the less function object so that the Pointer objects can be stored in STL Maps, etc.

Chapter 6

Data Structure Documentation

6.1 decaf::util::concurrent::ThreadPoolExecutor::AbortPolicy Class Reference

Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute** (p. 3039) this class always throws a **RejectedExecutionException** (p. 2552).

`#include <src/main/decaf/util/concurrent/ThreadPoolExecutor.h>`Inheritance diagram for decaf::util::concurrent::ThreadPoolExecutor::AbortPolicy:

Public Member Functions

- **AbortPolicy** ()
- virtual ~**AbortPolicy** ()
- virtual void **rejectedExecution** (**decaf::lang::Runnable** *task, **ThreadPoolExecutor** *executer DECAF_UNUSED)

6.1.1 Detailed Description

Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute** (p. 3039) this class always throws a **RejectedExecutionException** (p. 2552).

Since:

1.0

6.1.2 Constructor & Destructor Documentation

6.1.2.1 decaf::util::concurrent::ThreadPoolExecutor::AbortPolicy::AbortPolicy () [inline]

6.1.2.2 virtual decaf::util::concurrent::ThreadPoolExecutor::AbortPolicy::~AbortPolicy () [inline, virtual]

6.1.3 Member Function Documentation

6.1.3.1 virtual void decaf::util::concurrent::ThreadPoolExecutor::AbortPolicy::rejectedExecution (decaf::lang::Runnable * *task*, ThreadPoolExecutor *executer *DECAF_UNUSED*) [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ThreadPoolExecutor.h**

6.2 decaf::util::AbstractCollection< E > Class Template Reference

This class provides a skeletal implementation of the **Collection** (p. 1000) interface, to minimize the effort required to implement this interface.

`#include <src/main/decaf/util/AbstractCollection.h>`Inheritance diagram for decaf::util::AbstractCollection< E >:

Public Member Functions

- **AbstractCollection** ()
- virtual ~**AbstractCollection** ()
- **AbstractCollection**< E > & **operator**= (const **AbstractCollection**< E > &collection)

  Assignment Operator, copy element from the source collection to this collection after clearing any element stored in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **contains** (const E &value) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

  Parameters:

  value *The value to check for presence in the collection.*

  Returns:

  true if there is at least one of the elements in the collection

  Exceptions:

  NullPointerException *if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).*

- virtual bool **containsAll** (const **Collection**< E > &collection) const

- virtual bool **equals** (const **Collection**< E > &collection) const

  *Answers true if this **Collection** (p. 1000) and the one given are the same size and if each element contained in the **Collection** (p. 1000) given is equal to an element contained in this collection.*

- virtual void **copy** (const **Collection**< E > &collection)

  *Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000).*

- virtual bool **isEmpty** () const

  Returns true if this collection contains no elements.

- virtual bool **add** (const E &value DECAF_UNUSED)

- virtual bool **addAll** (const **Collection**< E > &collection)

- virtual bool **remove** (const E &value)

  Removes a single instance of the specified element from the collection.
  More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).
  Parameters:

  value *The reference to the element to remove from this* ***Collection*** *(*p. *1000).*
  Returns:

  true if the collection was changed, false otherwise.
  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(*p. *1000) is a container of pointers and does not allow NULL values.*

- virtual bool **removeAll** (const **Collection**< E > &collection)

- virtual bool **retainAll** (const **Collection**< E > &collection)

- virtual std::vector< E > **toArray** () const

  Answers an STL vector containing copies of all elements contained in this ***Collection*** *(*p. *1000).*

- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

  Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

Protected Attributes

- **util::concurrent::Mutex mutex**

6.2.1 Detailed Description

template<typename E> class decaf::util::AbstractCollection< E >

This class provides a skeletal implementation of the **Collection** (p. 1000) interface, to minimize the effort required to implement this interface. To implement an unmodifiable collection, the programmer needs only to extend this class and provide implementations for the iterator and size methods. (The iterator returned by the iterator method must implement hasNext and next.)

To implement a modifiable collection, the programmer must additionally override this class's add method (which otherwise throws an UnsupportedOperationException), and the iterator returned by the iterator method must additionally implement its remove method.

The programmer should generally provide a void (no argument) and **Collection** (p. 1000) constructor, as per the recommendation in the **Collection** (p. 1000) interface specification.

The documentation for each non-abstract method in this class describes its implementation in detail. Each of these methods may be overridden if the collection being implemented admits a more efficient implementation.

Since:

1.0

6.2.2 Constructor & Destructor Documentation

6.2.2.1 template<typename E> decaf::util::AbstractCollection< E >::AbstractCollection () [inline]

6.2.2.2 template<typename E> virtual decaf::util::AbstractCollection< E >::~AbstractCollection () [inline, virtual]

6.2.3 Member Function Documentation

6.2.3.1 template<typename E> virtual bool decaf::util::AbstractCollection< E >::add (const E &value *DECAF_UNUSED*) [inline, virtual]

This implementation always throws an UnsupportedOperationException.

Referenced by decaf::util::AbstractCollection< K >::addAll(), decaf::util::AbstractCollection< K >::copy(), and decaf::util::AbstractCollection< K >::operator=().

6.2.3.2 template<typename E> virtual bool decaf::util::AbstractCollection< E >::addAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

Reimplemented in **decaf::util::AbstractQueue< E >** (p. 177), **decaf::util::ArrayList< E >** (p. 583), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1218), **decaf::util::LinkedList< E >** (p. 1874), **decaf::util::StlList< E >** (p. 2845), **decaf::util::AbstractQueue< Pointer< Transport > >** (p. 177), **decaf::util::ArrayList< ServiceListener * >** (p. 583), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 583), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1874), **decaf::util::LinkedList< CompositeTask * >** (p. 1874), **decaf::util::LinkedList< URI >** (p. 1874), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1874), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1874), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1874), **decaf::util::LinkedList< decaf::net::URI >** (p. 1874), **decaf::util::LinkedList< Pointer< Command > >** (p. 1874), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1874), **decaf::util::LinkedList< cms::Destination * >** (p. 1874), **decaf::util::LinkedList< cms::Session * >** (p. 1874), and **decaf::util::LinkedList< cms::Connection * >** (p. 1874).

6.2.3.3 template<typename E> virtual void decaf::util::AbstractCollection< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Implements **decaf::util::Collection< E >** (p. 1003).

Reimplemented in **decaf::util::AbstractList< E >** (p. 160), **decaf::util::AbstractQueue< E >** (p. 177), **decaf::util::ArrayList< E >** (p. 583), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1218), **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1854), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2955), **decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet** (p. 1618), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet** (p. 1149), **decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet** (p. 1622), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet** (p. 1153), **decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection** (p. 1626), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection** (p. 1156), **decaf::util::LinkedList< E >** (p. 1875), **decaf::util::PriorityQueue< E >** (p. 2435), **decaf::util::StlList< E >** (p. 2846), **decaf::util::StlSet< E >** (p. 2879), **decaf::util::AbstractList< ServiceListener * >** (p. 160), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 160), **decaf::util::AbstractList< CompositeTask * >** (p. 160), **decaf::util::AbstractList< URI >** (p. 160), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 160), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 160), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 160), **decaf::util::AbstractList< decaf::net::URI >** (p. 160), **decaf::util::AbstractList< Pointer< Command > >** (p. 160), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 160),

decaf::util::AbstractList< cms::Destination * > (p. 160), **decaf::util::AbstractList< cms::Session * >** (p. 160), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 160), **decaf::util::AbstractList< cms::Connection * >** (p. 160), **decaf::util::AbstractQueue< Pointer< Transport > >** (p. 177), **decaf::util::ArrayList< ServiceListener * >** (p. 583), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 583), **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1854), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1875), **decaf::util::LinkedList< CompositeTask * >** (p. 1875), **decaf::util::LinkedList< URI >** (p. 1875), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1875), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1875), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1875), **decaf::util::LinkedList< decaf::net::URI >** (p. 1875), **decaf::util::LinkedList< Pointer< Command > >** (p. 1875), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1875), **decaf::util::LinkedList< cms::Destination * >** (p. 1875), **decaf::util::LinkedList< cms::Session * >** (p. 1875), **decaf::util::LinkedList< cms::Connection * >** (p. 1875), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2879), and **decaf::util::StlSet< Resource * >** (p. 2879).

Referenced by decaf::util::AbstractCollection< K >::copy(), and decaf::util::AbstractCollection< K >::operator=().

6.2.3.4 template<typename E> virtual bool decaf::util::AbstractCollection< E >::contains (const E & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Implements **decaf::util::Collection< E >** (p. 1004).

Reimplemented in **decaf::util::ArrayList< E >** (p. 584), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1219), **decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet** (p. 1622), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet** (p. 1153), **decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection** (p. 1626), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection** (p. 1156), **decaf::util::LinkedList< E >** (p. 1876), **decaf::util::StlList< E >** (p. 2846), **decaf::util::StlSet< E >** (p. 2880), **decaf::util::ArrayList< ServiceListener * >** (p. 584), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 584), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1876), **decaf::util::LinkedList< CompositeTask**

∗ > (p. 1876), **decaf::util::LinkedList< URI >** (p. 1876), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1876), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1876), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1876), **decaf::util::LinkedList< decaf::net::URI >** (p. 1876), **decaf::util::LinkedList< Pointer< Command > >** (p. 1876), **decaf::util::LinkedList< cms::MessageProducer ∗ >** (p. 1876), **decaf::util::LinkedList< cms::Destination ∗ >** (p. 1876), **decaf::util::LinkedList< cms::Session ∗ >** (p. 1876), **decaf::util::LinkedList< cms::Connection ∗ >** (p. 1876), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2880), and **decaf::util::StlSet< Resource ∗ >** (p. 2880).

Referenced by decaf::util::AbstractCollection< K >::containsAll().

6.2.3.5 template<typename E> virtual bool decaf::util::AbstractCollection< E >::containsAll (const Collection< E > & *collection*) const [inline, virtual]

This implementation iterates over the specified collection, checking each element returned by the iterator in turn to see if it's contained in this collection. If all elements are so contained true is returned, otherwise false.

Reimplemented in **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1219), and **decaf::util::concurrent::SynchronousQueue< E >** (p. 2956).

Referenced by decaf::util::AbstractCollection< K >::equals().

6.2.3.6 template<typename E> virtual void decaf::util::AbstractCollection< E >::copy (const Collection< E > & *collection*) [inline, virtual]

Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000). The default implementation iterates over the contents of the given collection adding each to this collection after first calling this Collection's clear method.

Parameters:

collection The collection to mirror.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

IllegalStateException if the elements cannot be added at this time due to insertion restrictions.

Reimplemented in **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1220), **decaf::util::LinkedList< E >** (p. 1876), **decaf::util::StlList< E >** (p. 2846), **decaf::util::StlSet< E >** (p. 2880), **decaf::util::LinkedList< cms::MessageConsumer ∗ >** (p. 1876), **decaf::util::LinkedList< CompositeTask ∗ >** (p. 1876), **decaf::util::LinkedList< URI >** (p. 1876), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1876), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1876), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1876), **decaf::util::LinkedList< decaf::net::URI >** (p. 1876), **decaf::util::LinkedList< Pointer< Command > >** (p. 1876), **decaf::util::LinkedList< cms::MessageProducer ∗ >** (p. 1876), **decaf::util::LinkedList< cms::Destination ∗ >** (p. 1876), **decaf::util::LinkedList< cms::Session ∗ >** (p. 1876), **decaf::util::LinkedList< cms::Connection ∗ >** (p. 1876), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2880), and **decaf::util::StlSet< Resource ∗ >** (p. 2880).

6.2.3.7 template<typename E> virtual bool decaf::util::AbstractCollection< E >::equals (const Collection< E > & *collection*) const [inline, virtual]

Answers true if this **Collection** (p. 1000) and the one given are the same size and if each element contained in the **Collection** (p. 1000) given is equal to an element contained in this collection.

Parameters:

collection - The **Collection** (p. 1000) to be compared to this one.

Returns:

true if this **Collection** (p. 1000) is equal to the one given.

Reimplemented in **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1220), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2957), **decaf::util::StlList< E >** (p. 2847), **decaf::util::StlSet< E >** (p. 2881), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2881), and **decaf::util::StlSet< Resource * >** (p. 2881).

Referenced by decaf::util::LinkedList< cms::Connection * >::operator!=(), decaf::util::ArrayList< Pointer< ActiveMQDestination > >::operator!=(), decaf::util::LinkedList< cms::Connection * >::operator==(), and decaf::util::ArrayList< Pointer< ActiveMQDestination > >::operator==().

6.2.3.8 template<typename E> virtual bool decaf::util::AbstractCollection< E >::isEmpty () const [inline, virtual]

Returns true if this collection contains no elements. This implementation returns **size()** (p. 1009) == 0.

Returns:

true if the size method return 0.

Implements **decaf::util::Collection< E >** (p. 1006).

Reimplemented in **decaf::util::ArrayList< E >** (p. 585), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1220), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2957), **decaf::util::LinkedList< E >** (p. 1879), **decaf::util::StlList< E >** (p. 2848), **decaf::util::StlSet< E >** (p. 2881), **decaf::util::ArrayList< ServiceListener * >** (p. 585), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 585), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1879), **decaf::util::LinkedList< CompositeTask * >** (p. 1879), **decaf::util::LinkedList< URI >** (p. 1879), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1879), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1879), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1879), **decaf::util::LinkedList< decaf::net::URI >** (p. 1879), **decaf::util::LinkedList< Pointer< Command > >** (p. 1879), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1879), **decaf::util::LinkedList< cms::Destination * >** (p. 1879), **decaf::util::LinkedList< cms::Session * >** (p. 1879), **decaf::util::LinkedList< cms::Connection * >** (p. 1879), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2881), and **decaf::util::StlSet< Resource * >** (p. 2881).

Referenced by decaf::util::AbstractQueue< Pointer< Transport > >::clear(), decaf::util::PriorityQueue< E >::peek(), decaf::util::PriorityQueue< E >::poll(), and decaf::util::PriorityQueue< E >::remove().

6.2.3.9 template<typename E> virtual void decaf::util::AbstractCollection< E >::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::clear(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::remove(), and decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::toArray().

6.2.3.10 template<typename E> virtual void decaf::util::AbstractCollection< E >::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.2.3.11 template<typename E> virtual void decaf::util::AbstractCollection< E >::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.2.3.12 template<typename E> AbstractCollection<E>& decaf::util::AbstractCollection< E >::operator= (const AbstractCollection< E > & *collection*) [inline]

Assignment Operator, copy element from the source collection to this collection after clearing any element stored in this collection.

Parameters:

collection - the collection to copy

Returns:

a reference to this collection

Reimplemented in **decaf::util::ArrayList< E >** (p. 586), **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1857), **decaf::util::LinkedList< E >** (p. 1881), **decaf::util::PriorityQueue< E >** (p. 2436), **decaf::util::ArrayList< ServiceListener * >** (p. 586), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 586), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1881), **decaf::util::LinkedList< CompositeTask * >** (p. 1881), **decaf::util::LinkedList< URI >** (p. 1881), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1881), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1881), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1881), **decaf::util::LinkedList< decaf::net::URI >** (p. 1881), **decaf::util::LinkedList< Pointer< Command > >** (p. 1881), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1881), **decaf::util::LinkedList< cms::Destination * >** (p. 1881), **decaf::util::LinkedList< cms::Session * >** (p. 1881), and **decaf::util::LinkedList< cms::Connection * >** (p. 1881).

6.2.3.13 template<typename E> virtual bool decaf::util::AbstractCollection< E >::remove (const E & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Implements **decaf::util::Collection< E >** (p. 1007).

Reimplemented in **decaf::util::ArrayList< E >** (p. 586), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1221), **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1859), **decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet** (p. 1619), **decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet** (p. 1623), **decaf::util::LinkedList< E >** (p. 1884), **decaf::util::PriorityQueue< E >** (p. 2437), **decaf::util::StlList< E >**

(p. 2850), **decaf::util::StlSet< E >** (p. 2881), **decaf::util::ArrayList< ServiceListener * >** (p. 586), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 586), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1884), **decaf::util::LinkedList< CompositeTask * >** (p. 1884), **decaf::util::LinkedList< URI >** (p. 1884), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1884), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1884), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1884), **decaf::util::LinkedList< decaf::net::URI >** (p. 1884), **decaf::util::LinkedList< Pointer< Command > >** (p. 1884), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1884), **decaf::util::LinkedList< cms::Destination * >** (p. 1884), **decaf::util::LinkedList< cms::Session * >** (p. 1884), **decaf::util::LinkedList< cms::Connection * >** (p. 1884), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2881), and **decaf::util::StlSet< Resource * >** (p. 2881).

6.2.3.14 template<typename E> virtual bool decaf::util::AbstractCollection< E >::removeAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over this collection, checking each element returned by the iterator in turn to see if it's contained in the specified collection. If it's so contained, it's removed from this collection with the iterator's remove method.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method and this collection contains one or more elements in common with the specified collection.

Reimplemented in **decaf::util::AbstractSet< E >** (p. 199), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1222), **decaf::util::AbstractSet< Pointer< Synchronization > >** (p. 199), **decaf::util::AbstractSet< Resource * >** (p. 199), **decaf::util::AbstractSet< MapEntry< K, V > >** (p. 199), and **decaf::util::AbstractSet< K >** (p. 199).

6.2.3.15 template<typename E> virtual bool decaf::util::AbstractCollection< E >::retainAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over this collection, checking each element returned by the iterator in turn to see if it's contained in the specified collection. If it's not so contained, it's removed from this collection with the iterator's remove method.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method and this collection contains one or more elements not present in the specified collection.

Reimplemented in **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1222).

6.2.3.16 template<typename E> virtual std::vector<E> decaf::util::AbstractCollection< E >::toArray () const [inline, virtual]

Answers an STL vector containing copies of all elements contained in this **Collection** (p. 1000). All the elements in the array will not be referenced by the collection. The elements in the returned array will be sorted to the same order as those returned by the iterator of this collection itself if the collection guarantees the order.

Returns:

an vector of copies of all the elements from this **Collection** (p. 1000)

Implements **decaf::util::Collection< E >** (p. 1010).

Reimplemented in **decaf::util::ArrayList< E >** (p. 588), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1223), **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1861), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2961), **decaf::util::LinkedList< E >** (p. 1887), **decaf::util::ArrayList< ServiceListener * >** (p. 588), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 588), **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1861), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1887), **decaf::util::LinkedList< CompositeTask * >** (p. 1887), **decaf::util::LinkedList< URI >** (p. 1887), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1887), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1887), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1887), **decaf::util::LinkedList< decaf::net::URI >** (p. 1887), **decaf::util::LinkedList< Pointer< Command > >** (p. 1887), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1887), **decaf::util::LinkedList< cms::Destination * >** (p. 1887), **decaf::util::LinkedList< cms::Session * >** (p. 1887), and **decaf::util::LinkedList< cms::Connection * >** (p. 1887).

6.2.3.17 template<typename E> virtual bool decaf::util::AbstractCollection< E >::tryLock () [inline, virtual]

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

6.2.3.18 template<typename E> virtual void decaf::util::AbstractCollection< E >::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

6.2.3.19 template<typename E> virtual void decaf::util::AbstractCollection< E >::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.2.3.20 template<typename E> virtual void decaf::util::AbstractCollection< E >::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.2.3.21 template<typename E> virtual void decaf::util::AbstractCollection< E >::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

6.2.4 Field Documentation

6.2.4.1 template<typename E> util::concurrent::Mutex decaf::util::AbstractCollection< E >::mutex [mutable, protected]

Referenced by decaf::util::AbstractCollection< K >::lock(), decaf::util::AbstractCollection< K >::notify(), decaf::util::AbstractCollection< K >::notifyAll(), decaf::util::AbstractCollection< K >::tryLock(), decaf::util::AbstractCollection< K >::unlock(), and decaf::util::AbstractCollection< K >::wait().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**AbstractCollection.h**

6.3 decaf::util::concurrent::AbstractExecutorService Class Reference

Provides a default implementation for the methods of the **ExecutorService** (p. 1471) interface.

`#include <src/main/decaf/util/concurrent/AbstractExecutorService.h>`Inheritance diagram for decaf::util::concurrent::AbstractExecutorService:

Public Member Functions

- **AbstractExecutorService** ()
- virtual ~**AbstractExecutorService** ()

Protected Member Functions

- virtual void **doSubmit** (**FutureType** *future)

  *Perform the actual submit of a **FutureType** (p. 1568) instance, the caller is responsible for creating the properly typed Future<E> object and returning that to its caller.*

6.3.1 Detailed Description

Provides a default implementation for the methods of the **ExecutorService** (p. 1471) interface. Use this class as a starting point for implementations of custom executor service implementations.

Since:

1.0

6.3.2 Constructor & Destructor Documentation

6.3.2.1 decaf::util::concurrent::AbstractExecutorService::AbstractExecutorService ()

6.3.2.2 virtual decaf::util::concurrent::AbstractExecutorService::~AbstractExecutorService () `[virtual]`

6.3.3 Member Function Documentation

6.3.3.1 virtual void decaf::util::concurrent::AbstractExecutorService::doSubmit (FutureType * *future*) `[protected, virtual]`

Perform the actual submit of a **FutureType** (p. 1568) instance, the caller is responsible for creating the properly typed Future<E> object and returning that to its caller. The pointer provided is the property of this **Executor** (p. 1463) and must be deleted by this executor once its completed.

Parameters:

future Pointer to a base **FutureType** (p. 1568) instance that is to be submitted to the **Executor** (p. 1463).

Implements **decaf::util::concurrent::ExecutorService** (p. 1473).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**AbstractExecutorService.h**

6.4 decaf::util::AbstractList< E > Class Template Reference

This class provides a skeletal implementation of the **List** (p. 1889) interface to minimize the effort required to implement this interface backed by a "random access" data store (such as an array).

`#include <src/main/decaf/util/AbstractList.h>`Inheritance diagram for decaf::util::AbstractList< E >:

Data Structures

- class **ConstSimpleListIterator**
- class **SimpleListIterator**

Public Member Functions

- **AbstractList** ()
- virtual ~**AbstractList** ()
- virtual **Iterator**< E > * **iterator** ()
- virtual **Iterator**< E > * **iterator** () const
- virtual **ListIterator**< E > * **listIterator** ()
- virtual **ListIterator**< E > * **listIterator** () const
- virtual **ListIterator**< E > * **listIterator** (int index)
- virtual **ListIterator**< E > * **listIterator** (int index) const
- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **add** (const E &value)

  Returns true if this collection changed as a result of the call.

- virtual void **add** (int index DECAF_UNUSED, const E &element DECAF_UNUSED)
- virtual bool **addAll** (int index, const **Collection**< E > &source)

  Inserts all of the elements in the specified collection into this list at the specified position (optional operation).

- virtual E **removeAt** (int index DECAF_UNUSED)

  Removes the element at the specified position in this list.

- virtual E **set** (int index DECAF_UNUSED, const E &element DECAF_UNUSED)
- virtual int **indexOf** (const E &value) const

  Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual int **lastIndexOf** (const E &value) const

  Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element.

Protected Member Functions

- void **removeRange** (int start, int end)

Protected Attributes

- int **modCount**

6.4.1 Detailed Description

template<typename E> class decaf::util::AbstractList< E >

This class provides a skeletal implementation of the **List** (p. 1889) interface to minimize the effort required to implement this interface backed by a "random access" data store (such as an array). For sequential access data (such as a linked list), **AbstractSequentialList** (p. 191) should be used in preference to this class.

To implement an unmodifiable list, the programmer needs only to extend this class and provide implementations for the get(int) and **size()** (p. 1009) methods.

To implement a modifiable list, the programmer must additionally override the set(int, E) method (which otherwise throws an UnsupportedOperationException). If the list is variable-size the programmer must additionally override the add(int, E) and remove(int) methods.

The programmer should generally provide a void (no argument) and collection constructor, as per the recommendation in the **Collection** (p. 1000) interface specification.

Unlike the other abstract collection implementations, the programmer does not have to provide an iterator implementation; the iterator and list iterator are implemented by this class, on top of the "random access" methods: get(int), set(int, E), add(int, E) and remove(int).

The documentation for each non-abstract method in this class describes its implementation in detail. Each of these methods may be overridden if the collection being implemented admits a more efficient implementation.

Since:

1.0

6.4.2 Constructor & Destructor Documentation

6.4.2.1 template<typename E> decaf::util::AbstractList< E >::AbstractList () [inline]

6.4.2.2 template<typename E> virtual decaf::util::AbstractList< E >::~AbstractList () [inline, virtual]

6.4.3 Member Function Documentation

6.4.3.1 template<typename E> virtual void decaf::util::AbstractList< E >::add (int index *DECAF_UNUSED*, const E &element *DECAF_UNUSED*) [inline, virtual]

6.4.3.2 template<typename E> virtual bool decaf::util::AbstractList< E >::add (const E & *value*) [inline, virtual]

Returns true if this collection changed as a result of the call. (Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::Collection< E >** (p. 1001).

Reimplemented in **decaf::util::ArrayList< E >** (p. 582), **decaf::util::LinkedList< E >** (p. 1873), **decaf::util::StlList< E >** (p. 2843), **decaf::util::ArrayList< ServiceListener * >** (p. 582), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 582), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1873), **decaf::util::LinkedList< CompositeTask * >** (p. 1873), **decaf::util::LinkedList< URI >** (p. 1873), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1873), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1873), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1873), **decaf::util::LinkedList< decaf::net::URI >** (p. 1873), **decaf::util::LinkedList< Pointer< Command > >** (p. 1873), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1873), **decaf::util::LinkedList< cms::Destination * >** (p. 1873), **decaf::util::LinkedList< cms::Session * >** (p. 1873), and **decaf::util::LinkedList< cms::Connection * >** (p. 1873).

Referenced by decaf::util::AbstractList< cms::Connection * >::add(), and decaf::util::AbstractList< cms::Connection * >::addAll().

6.4.3.3 template<typename E> virtual bool decaf::util::AbstractList< E >::addAll (int *index*, const Collection< E > & *source*) [inline, virtual]

Inserts all of the elements in the specified collection into this list at the specified position (optional operation). Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

Parameters:

index The index at which to insert the first element from the specified collection

source The **Collection** (p. 1000) containing elements to be added to this list

Returns:

true if this list changed as a result of the call

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::List< E >** (p. 1891).

Reimplemented in **decaf::util::AbstractSequentialList< E >** (p. 194), **decaf::util::ArrayList< E >** (p. 582), **decaf::util::LinkedList< E >** (p. 1873), **decaf::util::StlList< E >** (p. 2845), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 194), **decaf::util::AbstractSequentialList<**

CompositeTask * > (p. 194), **decaf::util::AbstractSequentialList< URI** > (p. 194), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch** > > (p. 194), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo** > > (p. 194), **decaf::util::AbstractSequentialList< PrimitiveValueNode** > (p. 194), **decaf::util::AbstractSequentialList< decaf::net::URI** > (p. 194), **decaf::util::AbstractSequentialList< Pointer< Command** > > (p. 194), **decaf::util::AbstractSequentialList< cms::MessageProducer** * > (p. 194), **decaf::util::AbstractSequentialList< cms::Destination** * > (p. 194), **decaf::util::AbstractSequentialList< cms::Session** * > (p. 194), **decaf::util::AbstractSequentialList< cms::Connection** * > (p. 194), **decaf::util::ArrayList< ServiceListener** * > (p. 582), **decaf::util::ArrayList< Pointer< ActiveMQDestination** > > (p. 582), **decaf::util::LinkedList< cms::MessageConsumer** * > (p. 1873), **decaf::util::LinkedList< CompositeTask** * > (p. 1873), **decaf::util::LinkedList< URI** > (p. 1873), **decaf::util::LinkedList< Pointer< MessageDispatch** > > (p. 1873), **decaf::util::LinkedList< Pointer< DestinationInfo** > > (p. 1873), **decaf::util::LinkedList< PrimitiveValueNode** > (p. 1873), **decaf::util::LinkedList< decaf::net::URI** > (p. 1873), **decaf::util::LinkedList< Pointer< Command** > > (p. 1873), **decaf::util::LinkedList< cms::MessageProducer** * > (p. 1873), **decaf::util::LinkedList< cms::Destination** * > (p. 1873), **decaf::util::LinkedList< cms::Session** * > (p. 1873), and **decaf::util::LinkedList< cms::Connection** * > (p. 1873).

6.4.3.4 template<typename E> virtual void decaf::util::AbstractList< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 144).

Reimplemented in **decaf::util::ArrayList< E >** (p. 583), **decaf::util::LinkedList< E >** (p. 1875), **decaf::util::StlList< E >** (p. 2846), **decaf::util::ArrayList< ServiceListener** * > (p. 583), **decaf::util::ArrayList< Pointer< ActiveMQDestination** > > (p. 583), **decaf::util::LinkedList< cms::MessageConsumer** * > (p. 1875), **decaf::util::LinkedList< CompositeTask** * > (p. 1875), **decaf::util::LinkedList< URI** > (p. 1875), **decaf::util::LinkedList< Pointer< MessageDispatch** > > (p. 1875), **decaf::util::LinkedList< Pointer< DestinationInfo** > > (p. 1875), **decaf::util::LinkedList< PrimitiveValueNode** > (p. 1875), **decaf::util::LinkedList< decaf::net::URI** > (p. 1875), **decaf::util::LinkedList< Pointer< Command** > > (p. 1875), **decaf::util::LinkedList< cms::MessageProducer** * > (p. 1875), **decaf::util::LinkedList< cms::Destination** * > (p. 1875), **decaf::util::LinkedList< cms::Session** * > (p. 1875), and **decaf::util::LinkedList< cms::Connection** * > (p. 1875).

6.4.3.5 template<typename E> virtual int decaf::util::AbstractList< E >::indexOf (const E & *value*) const [inline, virtual]

Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the lowest index i such that get(i) == value, or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the first occurrence of the specified element in this list,

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implements **decaf::util::List< E >** (p. 1893).

Reimplemented in **decaf::util::ArrayList< E >** (p. 585), **decaf::util::LinkedList< E >** (p. 1878), **decaf::util::StlList< E >** (p. 2848), **decaf::util::ArrayList< ServiceListener * >** (p. 585), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 585), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1878), **decaf::util::LinkedList< CompositeTask * >** (p. 1878), **decaf::util::LinkedList< URI >** (p. 1878), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1878), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1878), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1878), **decaf::util::LinkedList< decaf::net::URI >** (p. 1878), **decaf::util::LinkedList< Pointer< Command > >** (p. 1878), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1878), **decaf::util::LinkedList< cms::Destination * >** (p. 1878), **decaf::util::LinkedList< cms::Session * >** (p. 1878), and **decaf::util::LinkedList< cms::Connection * >** (p. 1878).

6.4.3.6 template<typename E> virtual Iterator<E>* decaf::util::AbstractList< E >::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< E >** (p. 1786).

Reimplemented in **decaf::util::AbstractSequentialList< E >** (p. 195), **decaf::util::StlList< E >** (p. 2848), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 195), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 195), **decaf::util::AbstractSequentialList< URI >** (p. 195), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 195), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 195), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 195), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 195), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 195), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 195), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 195), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 195), and **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 195).

6.4.3.7 template<typename E> virtual Iterator<E>* decaf::util::AbstractList< E >::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< E >** (p. 1787).

Reimplemented in **decaf::util::AbstractSequentialList< E >** (p. 196), **decaf::util::StlList< E >** (p. 2848), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 196), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 196), **decaf::util::AbstractSequentialList< URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 196), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 196), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 196), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 196), and **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 196).

Referenced by decaf::util::ArrayList< Pointer< ActiveMQDestination > >::ArrayList().

6.4.3.8 template<typename E> virtual int decaf::util::AbstractList< E >::lastIndexOf (const E & *value*) const [inline, virtual]

Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the highest index i such that get(i) == value or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the last occurrence of the specified element in this list.

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implements **decaf::util::List< E >** (p. 1894).

Reimplemented in **decaf::util::ArrayList< E >** (p. 585), **decaf::util::LinkedList< E >** (p. 1879), **decaf::util::StlList< E >** (p. 2848), **decaf::util::ArrayList< ServiceListener * >** (p. 585), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 585), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1879), **decaf::util::LinkedList< CompositeTask * >** (p. 1879), **decaf::util::LinkedList< URI >** (p. 1879), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1879), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1879), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1879), **decaf::util::LinkedList< decaf::net::URI >** (p. 1879), **decaf::util::LinkedList< Pointer< Command > >** (p. 1879),

decaf::util::LinkedList< cms::MessageProducer * > (p. 1879), **decaf::util::LinkedList< cms::Destination * >** (p. 1879), **decaf::util::LinkedList< cms::Session * >** (p. 1879), and **decaf::util::LinkedList< cms::Connection * >** (p. 1879).

6.4.3.9 template<typename E> virtual ListIterator<E>* decaf::util::AbstractList< E >::listIterator (int index) const [inline, virtual]

Implements **decaf::util::List< E >** (p. 1894).

Reimplemented in **decaf::util::AbstractSequentialList< E >** (p. 196), **decaf::util::LinkedList< E >** (p. 1879), **decaf::util::StlList< E >** (p. 2849), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 196), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 196), **decaf::util::AbstractSequentialList< URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 196), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 196), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 196), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 196), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1879), **decaf::util::LinkedList< CompositeTask * >** (p. 1879), **decaf::util::LinkedList< URI >** (p. 1879), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1879), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1879), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1879), **decaf::util::LinkedList< decaf::net::URI >** (p. 1879), **decaf::util::LinkedList< Pointer< Command > >** (p. 1879), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1879), **decaf::util::LinkedList< cms::Destination * >** (p. 1879), **decaf::util::LinkedList< cms::Session * >** (p. 1879), and **decaf::util::LinkedList< cms::Connection * >** (p. 1879).

6.4.3.10 template<typename E> virtual ListIterator<E>* decaf::util::AbstractList< E >::listIterator (int *index*) [inline, virtual]

Parameters:

index index of first element to be returned from the list iterator (by a call to the next method).

Returns:

a list iterator of the elements in this list (in proper sequence), starting at the specified position in this list. The specified index indicates the first element that would be returned by an initial call to next. An initial call to previous would return the element with the specified index minus one.

Exceptions:

IndexOutOfBoundsException if the index is out of range (index < 0 || index > **size()** (p. 1009))

Implements **decaf::util::List< E >** (p. 1895).

Reimplemented in **decaf::util::AbstractSequentialList< E >** (p. 196), **decaf::util::LinkedList< E >** (p. 1880), **decaf::util::StlList< E >** (p. 2849), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 196), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 196), **decaf::util::AbstractSequentialList< URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 196), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 196), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 196), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 196), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1880), **decaf::util::LinkedList< CompositeTask * >** (p. 1880), **decaf::util::LinkedList< URI >** (p. 1880), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1880), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1880), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1880), **decaf::util::LinkedList< decaf::net::URI >** (p. 1880), **decaf::util::LinkedList< Pointer< Command > >** (p. 1880), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1880), **decaf::util::LinkedList< cms::Destination * >** (p. 1880), **decaf::util::LinkedList< cms::Session * >** (p. 1880), and **decaf::util::LinkedList< cms::Connection * >** (p. 1880).

6.4.3.11 template<typename E> virtual ListIterator<E>* decaf::util::AbstractList< E >::listIterator () const [inline, virtual]

Implements **decaf::util::List< E >** (p. 1896).

Reimplemented in **decaf::util::AbstractSequentialList< E >** (p. 197), **decaf::util::StlList< E >** (p. 2849), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 197), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 197), **decaf::util::AbstractSequentialList< URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 197), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 197), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 197), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 197), and **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 197).

6.4.3.12 template<typename E> virtual ListIterator<E>* decaf::util::AbstractList< E >::listIterator () [inline, virtual]

Returns:

a list iterator over the elements in this list (in proper sequence).

Implements **decaf::util::List< E >** (p. 1897).

Reimplemented in **decaf::util::AbstractSequentialList< E >** (p. 197), **decaf::util::StlList< E >** (p. 2850), **decaf::util::AbstractSequentialList<**

cms::MessageConsumer * > (p. 197), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 197), **decaf::util::AbstractSequentialList< URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 197), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 197), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 197), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 197), and **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 197).

Referenced by decaf::util::AbstractList< cms::Connection * >::indexOf(), decaf::util::AbstractList< cms::Connection * >::lastIndexOf(), and decaf::util::AbstractList< cms::Connection * >::removeRange().

6.4.3.13 template<typename E> virtual E decaf::util::AbstractList< E >::removeAt (int index *index*) [inline, virtual]

Removes the element at the specified position in this list. Shifts any subsequent elements to the left (subtracts one from their indices). Returns the element that was removed from the list.

Parameters:

index - the index of the element to be removed.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

Implements **decaf::util::List< E >** (p. 1897).

Reimplemented in **decaf::util::AbstractSequentialList< E >** (p. 197), **decaf::util::ArrayList< E >** (p. 587), **decaf::util::StlList< E >** (p. 2850), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 197), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 197), **decaf::util::AbstractSequentialList< URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 197), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 197), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 197), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 197), **decaf::util::ArrayList< ServiceListener * >** (p. 587), and **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 587).

6.4.3.14 template<typename E> void decaf::util::AbstractList< E >::removeRange (int *start*, int *end*) [inline, protected]

Referenced by decaf::util::AbstractList< cms::Connection * >::clear().

6.4.3.15 template<typename E> virtual E decaf::util::AbstractList< E >::set (int index *DECAF_UNUSED*, const E &element *DECAF_UNUSED*) [inline, virtual]

6.4.4 Field Documentation

6.4.4.1 template<typename E> int decaf::util::AbstractList< E >::modCount [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/util/**AbstractList.h**

6.5 decaf::util::AbstractMap< K, V > Class Template Reference

This class provides a skeletal implementation of the **Map** (p. 1995) interface, to minimize the effort required to implement this interface.

`#include <src/main/decaf/util/AbstractMap.h>`Inheritance diagram for decaf::util::AbstractMap< K, V >:

Public Member Functions

- **AbstractMap** ()
- **AbstractMap** (const **Map**< K, V > &map)
- **AbstractMap** (const **AbstractMap**< K, V > &map)
- virtual ~**AbstractMap** ()
- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

  Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

Protected Attributes

- **util::concurrent::Mutex mutex**

6.5.1 Detailed Description

template<typename K, typename V> class decaf::util::AbstractMap< K, V >

This class provides a skeletal implementation of the **Map** (p. 1995) interface, to minimize the effort required to implement this interface. To implement an unmodifiable map, the programmer needs only to extend this class and provide an implementation for the entrySet method, which returns a set-view of the map's mappings. Typically, the returned set will, in turn, be implemented atop **AbstractSet** (p. 199). This set should not support the add or remove methods, and its iterator should not support the remove method.

To implement a modifiable map, the programmer must additionally override this class's put method (which otherwise throws an UnsupportedOperationException), and the iterator returned by **entrySet()** (p. 1999).iterator() must additionally implement its remove method.

The programmer should generally provide a void (no argument) and map constructor, as per the recommendation in the **Map** (p. 1995) interface specification.

The documentation for each non-abstract method in this class describes its implementation in detail. Each of these methods may be overridden if the map being implemented admits a more efficient implementation.

Since:

1.0

6.5.2 Constructor & Destructor Documentation

6.5.2.1 template<typename K, typename V> decaf::util::AbstractMap< K, V >::AbstractMap () [inline]

6.5.2.2 template<typename K, typename V> decaf::util::AbstractMap< K, V >::AbstractMap (const Map< K, V > & *map*) [inline]

6.5.2.3 template<typename K, typename V> decaf::util::AbstractMap< K, V >::AbstractMap (const AbstractMap< K, V > & *map*) [inline]

6.5.2.4 template<typename K, typename V> virtual decaf::util::AbstractMap< K, V >::~AbstractMap () [inline, virtual]

6.5.3 Member Function Documentation

6.5.3.1 template<typename K, typename V> virtual void decaf::util::AbstractMap< K, V >::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

6.5.3.2 template<typename K, typename V> virtual void decaf::util::AbstractMap< K, V >::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.5.3.3 template<typename K, typename V> virtual void decaf::util::AbstractMap< K, V >::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.5.3.4 template<typename K, typename V> virtual bool decaf::util::AbstractMap< K, V >::tryLock () [inline, virtual]

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

6.5.3.5 template<typename K, typename V> virtual void decaf::util::AbstractMap< K, V >::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

6.5.3.6 template<typename K, typename V> virtual void decaf::util::AbstractMap< K, V >::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.5.3.7 template<typename K, typename V> virtual void decaf::util::AbstractMap< K, V >::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.5.3.8 template<typename K, typename V> virtual void decaf::util::AbstractMap< K, V >::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

6.5.4 Field Documentation

6.5.4.1 template<typename K, typename V> util::concurrent::Mutex decaf::util::AbstractMap< K, V >::mutex [mutable, protected]

Referenced by decaf::util::AbstractMap< E, Set< E > * >::lock(), decaf::util::AbstractMap< E, Set< E > * >::notify(), decaf::util::AbstractMap< E, Set< E > * >::notifyAll(), decaf::util::AbstractMap< E, Set< E > * >::tryLock(), decaf::util::AbstractMap< E, Set< E > * >::unlock(), and decaf::util::AbstractMap< E, Set< E > * >::wait().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**AbstractMap.h**

6.6 decaf::util::concurrent::locks::AbstractOwnableSynchronizer Class Reference

Base class for **locks** (p. 133) that provide the notion of Ownership, the types of **locks** (p. 133) that are implemented using this base class would be owned by one specific Thread at any given time.

`#include <src/main/decaf/util/concurrent/locks/AbstractOwnableSynchronizer.h>`Inheritance diagram for decaf::util::concurrent::locks::AbstractOwnableSynchronizer:

Public Member Functions

- virtual ~**AbstractOwnableSynchronizer** ()

Protected Member Functions

- **AbstractOwnableSynchronizer** ()
- **decaf::lang::Thread** * **getExclusiveOwnerThread** () const

  Gets the Thread that was last set using the setExclusiveOwnerThread method, or NULL if no Thread has been made the exclusive owner.

- void **setExclusiveOwnerThread** (**decaf::lang::Thread** *thread)

  Sets the Thread that has exclusive ownership of this Synchronizer, can be NULL to indicate that no Thread now owns this Synchronizer.

6.6.1 Detailed Description

Base class for **locks** (p. 133) that provide the notion of Ownership, the types of **locks** (p. 133) that are implemented using this base class would be owned by one specific Thread at any given time.

Since:

1.0

6.6.2 Constructor & Destructor Documentation

6.6.2.1 virtual decaf::util::concurrent::locks::AbstractOwnableSynchronizer::~AbstractOwnableSynchronize () [virtual]

6.6.2.2 decaf::util::concurrent::locks::AbstractOwnableSynchronizer::AbstractOwnableSynchronizer () [protected]

6.6.3 Member Function Documentation

6.6.3.1 decaf::lang::Thread* decaf::util::concurrent::locks::AbstractOwnableSynchronizer::getExclusiveOwnerThread () const [protected]

Gets the Thread that was last set using the setExclusiveOwnerThread method, or NULL if no Thread has been made the exclusive owner.

Returns:

pointer to the owner Thread or NULL if not set.

6.6.3.2 void decaf::util::concurrent::locks::AbstractOwnableSynchronizer::setExclusiveOwnerThread (decaf::lang::Thread * *thread*) [protected]

Sets the Thread that has exclusive ownership of this Synchronizer, can be NULL to indicate that no Thread now owns this Synchronizer.

Parameters:

thread The Thread that now has ownership, or NULL if ownership is released.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/locks/**AbstractOwnableSynchronizer.h**

6.7 decaf::util::AbstractQueue< E > Class Template Reference

This class provides skeletal implementations of some **Queue** (p. 2500) operations.

`#include <src/main/decaf/util/AbstractQueue.h>`Inheritance diagram for decaf::util::AbstractQueue< E >:

Public Member Functions

- **AbstractQueue** ()
- virtual ~**AbstractQueue** ()
- virtual bool **add** (const E &value)

  Returns true if this collection changed as a result of the call.
  (Returns false if this collection does not permit duplicates and already contains the specified element.)
  Collections *(p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added.* ***Collection*** *(p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.*
  If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.
  For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.
  Parameters:

  value *The reference to the element to add to this* ***Collection*** *(p. 1000).*

  Returns:

  true if the element was added to this ***Collection*** *(p. 1000).*

  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
  IllegalArgumentException *if some property of the element prevents it from being added to this collection.*
  IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

- virtual bool **addAll** (const **Collection**< E > &collection)

  This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.
  Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

- virtual E **remove** ()

  Gets and removes the element in the head of the queue.
  Throws a ***NoSuchElementException*** *(p. 2247) if there is no element in the queue.*
  Returns:

  the element in the head of the queue.

Exceptions:

NoSuchElementException *(p. 2247) if there is no element in the queue.*

- virtual E **element** () const

Gets but not removes the element in the head of the queue.
Throws a ***NoSuchElementException*** *(p. 2247) if there is no element in the queue.*

Returns:

the element in the head of the queue.

Exceptions:

NoSuchElementException *(p. 2247) if there is no element in the queue.*

- virtual void **clear** ()

Removes all of the elements from this collection (optional operation).
The collection will be empty after this method returns.
This implementation iterates over this collection, removing each element using the ***Iterator.remove*** *(p. 1790) operation. Most implementations will probably choose to override this method for efficiency.*
Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException *if the clear operation is not supported by this collection*

6.7.1 Detailed Description

template<typename E> class decaf::util::AbstractQueue< E >

This class provides skeletal implementations of some **Queue** (p. 2500) operations. Methods add, remove, and element are based on offer, poll, and peek, respectively.

A **Queue** (p. 2500) implementation that extends this class must minimally define a method **Queue** (p. 2500). offer(E) which does not permit insertion of null elements, along with methods **Queue** (p. 2500). **peek()** (p. 2502), **Queue.poll()** (p. 2502), **Collection.size()** (p. 1009), and a **Collection.iterator()** (p. 1787) supporting **Iterator.remove()** (p. 1790). Typically, additional methods will be overridden as well. If these requirements cannot be met, consider instead subclassing **AbstractCollection** (p. 141).

Since:

1.0

6.7.2 Constructor & Destructor Documentation

6.7.2.1 template<typename E> decaf::util::AbstractQueue< E >::AbstractQueue () [inline]

6.7.2.2 template<typename E> virtual decaf::util::AbstractQueue< E >::~AbstractQueue () [inline, virtual]

6.7.3 Member Function Documentation

6.7.3.1 template<typename E> virtual bool decaf::util::AbstractQueue< E >::add (const E & *value*) [inline, virtual]

Returns true if this collection changed as a result of the call.

(Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

This implementation returns true if offer succeeds, else throws an IllegalStateException.

Implements **decaf::util::Collection< E >** (p. 1001).

Reimplemented in **decaf::util::PriorityQueue< E >** (p. 2434).

6.7.3.2 template<typename E> virtual bool decaf::util::AbstractQueue< E >::addAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty). This implementation checks to see if the **Queue** (p. 2500) is being added to itself and throws an IllegalArgumentException if so, otherwise it delegates the add to the AbstractCollection's addAll implementation.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 143).

Referenced by decaf::util::AbstractQueue< Pointer< Transport > >::addAll(), and decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::operator=().

6.7.3.3 template<typename E> virtual void decaf::util::AbstractQueue< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation).

The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

This implementation repeatedly invokes poll until it returns false.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 144).

Reimplemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1854), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2955), **decaf::util::PriorityQueue< E >** (p. 2435), and **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1854).

6.7.3.4 template<typename E> virtual E decaf::util::AbstractQueue< E >::element () const [inline, virtual]

Gets but not removes the element in the head of the queue.

Throws a **NoSuchElementException** (p. 2247) if there is no element in the queue.

Returns:

the element in the head of the queue.

Exceptions:

NoSuchElementException *(p. 2247)* if there is no element in the queue.

This implementation returns the result of peek unless the queue is empty otherwise it throws a **NoSuchElementException** (p. 2247).

Implements **decaf::util::Queue< E >** (p. 2501).

Referenced by decaf::util::concurrent::SynchronousQueue< E >::drainTo().

6.7.3.5 template<typename E> virtual E decaf::util::AbstractQueue< E >::remove () [inline, virtual]

Gets and removes the element in the head of the queue.

Throws a **NoSuchElementException** (p. 2247) if there is no element in the queue.

Returns:

the element in the head of the queue.

Exceptions:

NoSuchElementException *(p. 2247)* if there is no element in the queue.

This implementation returns the result of poll unless the queue is empty.

Implements **decaf::util::Queue< E >** (p. 2503).

Reimplemented in **decaf::util::PriorityQueue< E >** (p. 2438).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**AbstractQueue.h**

6.8 decaf::util::concurrent::locks::AbstractQueuedSynchronizer Class Reference

`#include <src/main/decaf/util/concurrent/locks/AbstractQueuedSynchronizer.h>`Inheritance diagram for decaf::util::concurrent::locks::AbstractQueuedSynchronizer:

Data Structures

- class **ConditionObject**

  Condition *(*p. *1071) object for this Synchronizer, which serves as the basis for other* ***Lock*** *(*p. *1913) objects.*

Public Member Functions

- virtual ∼**AbstractQueuedSynchronizer** ()
- void **acquire** (int arg)

  Acquire the lock exclusively, ignoring interrupts.

- void **acquireShared** (int arg)

  Acquire the lock in shared mode, ignoring interrupts.

- void **acquireInterruptibly** (int arg)

  Acquire the lock exclusively, allowing for interrupts.

- void **acquireSharedInterruptibly** (int arg)

  Acquire the lock in shared mode, allowing interruption.

- **Collection< decaf::lang::Thread ∗ > ∗ getExclusiveQueuedThreads** () const

  Creates and returns a new ***Collection*** *(*p. *1000) object that contains only those threads that may be waiting to acquire this Synchronization in exclusive mode.*

- **Collection< decaf::lang::Thread ∗ > ∗ getSharedQueuedThreads** () const

  Creates and returns a new ***Collection*** *(*p. *1000) object that contains only those threads that may be waiting to acquire this Synchronization in shared mode.*

- **decaf::lang::Thread ∗ getFirstQueuedThread** () const

  Returns the first thread queue (the thread that's been waiting the longest) if there are currently no queued threads this method returns NULL.

- **Collection< decaf::lang::Thread ∗ > ∗ getQueuedThreads** () const

  Creates and returns a new ***Collection*** *(*p. *1000) object that contains a best effort snapshot of the threads that are currently waiting to acquire.*

- int **getQueueLength** () const

  Gets an estimated count of the number of threads that are currently waiting to acquire, this value changes dynamically so the result of this method can be invalid immediately after it is called.

- **Collection**< **decaf::lang::Thread** * > * **getWaitingThreads** (const **AbstractQueuedSynchronizer::ConditionObject** *condition) const

  *Creates and returns a new **Collection** (p. 1000) object that contains all the threads that may be waiting on the given ConditionOject instance at the time this method is called.*

- int **getWaitQueueLength** (const **AbstractQueuedSynchronizer::ConditionObject** *condition) const

  *Gets an estimated count of the number of threads that are currently waiting on the given **ConditionObject** (p. 1077), this value changes dynamically so the result of this method can be invalid immediately after it is called.*

- bool **hasContended** () const
- bool **hasQueuedThreads** () const
- bool **hasWaiters** (const **AbstractQueuedSynchronizer::ConditionObject** *condition) const

  *Returns true if there are any threads that are currently waiting on the given **ConditionObject** (p. 1077), the condition must be associated with this synchronizer instance.*

- bool **isQueued** (**decaf::lang::Thread** *thread) const

  *Traverse the **Queue** (p. 2500) if waiting threads to see if the given thread is present.*

- bool **owns** (const **AbstractQueuedSynchronizer::ConditionObject** *condition) const

  *Checks whether the given **ConditionObject** (p. 1077) uses this Synchronizer as its lock object.*

- bool **release** (int arg)

  When held in exclusive mode this method releases the Synchronizer.

- bool **releaseShared** (int arg)

  When held in shared mode this method releases the Synchronizer.

- std::string **toString** () const

  Gets a string that identifies this Synchronizer along with its present state.

- bool **tryAcquireNanos** (int arg, long long nanos)

  *Acquires in exclusive mode if possible, first checking if the calling thread has already been interrupted or not, then calling **tryAcquire(int)** (p. 188) at least one time and possibly more up to the given timeout, or until the calling thread is interrupted.*

- bool **tryAcquireSharedNanos** (int arg, long long nanos)

  *Acquires in shared mode if possible, first checking if the calling thread has already been interrupted or not, then calling **tryAcquireShared(int)** (p. 188) at least one time and possibly more up to the given timeout, or until the calling thread is interrupted.*

Protected Member Functions

- **AbstractQueuedSynchronizer** ()
- virtual int **getState** () const

  Gets and returns the currently set value of this object Synchronization sate.

- virtual void **setState** (int value)

  Sets the synchronization state to the given value.

- virtual bool **compareAndSetState** (int expect, int update)

  Sets the synchronization state to the specified value if the current value is equal to the expected value given, otherwise no change is made.

- virtual bool **isHeldExclusively** () const

  If the calling thread hold an exclusive lock on this synchronization then this method returns true, false otherwise.

- virtual bool **tryAcquire** (int arg)

  Performs the actual work of attempting to acquire the lock in exclusive mode.

- virtual int **tryAcquireShared** (int arg)

  Performs the actual work of attempting to acquire the lock in shared mode.

- virtual bool **tryRelease** (int arg)

  Performs a release for the calling thread in exclusive mode.

- virtual bool **tryReleaseShared** (int arg)

  Performs a release for the calling thread in shared mode.

- virtual **ConditionObject** * **createDefaultConditionObject** ()

  *Provides a means for derived classes to create a **ConditionObject** (p. 1077) implemented by the basic logic implemented inside this class.*

6.8.1 Constructor & Destructor Documentation

6.8.1.1 decaf::util::concurrent::locks::AbstractQueuedSynchronizer::AbstractQueuedSynchronizer () [protected]

6.8.1.2 virtual decaf::util::concurrent::locks::AbstractQueuedSynchronizer::~AbstractQueuedSynchronizer () [virtual]

6.8.2 Member Function Documentation

6.8.2.1 void decaf::util::concurrent::locks::AbstractQueuedSynchronizer::acquire (int *arg*)

Acquire the lock exclusively, ignoring interrupts. This method will call tryAcquire at least once and return if that succeeds, otherwise it can block and possibly spin until the lock is acquired. This method can serve as the basis for a **Lock.lock()** (p. 1914) implementation.

Parameters:

arg Argument passed to tryAcquire, value is not interpreted by this class.

6.8.2.2 void decaf::util::concurrent::locks::AbstractQueuedSynchronizer::acquireInterruptibly (int *arg*)

Acquire the lock exclusively, allowing for interrupts. If the interrupt state is not already set this method will call tryAcquire at least once and return if that succeeds, otherwise it can block and possibly spin until the lock is acquired or the Thread is interrupted. This method can serve as the basis for a **Lock.lockInterruptibly()** (p. 1915) implementation.

Parameters:

arg Argument passed to tryAcquire, value is not interpreted by this class.

Exceptions:

InterruptedException if the calling Thread is interrupted.

6.8.2.3 void decaf::util::concurrent::locks::AbstractQueuedSynchronizer::acquireShared (int *arg*)

Acquire the lock in shared mode, ignoring interrupts. This method will call tryAcquireShared at least once and return if that succeeds, otherwise it can block and possibly spin until the lock is acquired.

Parameters:

arg Argument passed to tryAcquireShared, value is not interpreted by this class.

6.8.2.4 void decaf::util::concurrent::locks::AbstractQueuedSynchronizer::acquireSharedInterruptibly (int *arg*)

Acquire the lock in shared mode, allowing interruption. If the interrupt state is not already set this method will call tryAcquireShared at least once and return if that succeeds, otherwise it can block and possibly spin until the lock is acquired or the Thread is interrupted.

Parameters:

arg Argument passed to tryAcquireShared, value is not interpreted by this class.

Exceptions:

InterruptedException if the calling Thread is interrupted.

6.8.2.5 virtual bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::compareAndSetState (int *expect*, int *update*) [protected, virtual]

Sets the synchronization state to the specified value if the current value is equal to the expected value given, otherwise no change is made. This method is Atomic.

Parameters:

expect The value that state must have if the update is made.

update The new value to assign the state if the current value matches the expected.

Returns:

true if a change is made, false otherwise.

6.8.2.6 virtual ConditionObject* decaf::util::concurrent::locks::AbstractQueuedSynchronizer::createDefaultConditionObject () [protected, virtual]

Provides a means for derived classes to create a **ConditionObject** (p. 1077) implemented by the basic logic implemented inside this class. Can be overridden by derived classes that wish to provide their own implementation of a **ConditionObject** (p. 1077).

Returns:

a new **ConditionObject** (p. 1077) that is owned by the caller.

6.8.2.7 Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::AbstractQueuedSynchronizer::getExclusiveQueuedThreads () const

Creates and returns a new **Collection** (p. 1000) object that contains only those threads that may be waiting to acquire this Synchronization in exclusive mode.

Returns:

a **Collection** (p. 1000) pointer that contains waiting threads for exclusive acquisition. The caller owns the returned pointer.

6.8.2.8 decaf::lang::Thread* decaf::util::concurrent::locks::AbstractQueuedSynchronizer::getFirstQueuedThread () const

Returns the first thread queue (the thread that's been waiting the longest) if there are currently no queued threads this method returns NULL.

Returns:

the first thread in the queue or NULL if none are currently waiting.

6.8.2.9 Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::AbstractQueuedSynchronizer::getQueuedThreads () const

Creates and returns a new **Collection** (p. 1000) object that contains a best effort snapshot of the threads that are currently waiting to acquire.

Returns:

a **Collection** (p. 1000) pointer that contains waiting threads for lock acquisition. The caller owns the returned pointer.

6.8.2.10 int decaf::util::concurrent::locks::AbstractQueuedSynchronizer::getQueueLength () const

Gets an estimated count of the number of threads that are currently waiting to acquire, this value changes dynamically so the result of this method can be invalid immediately after it is called.

Returns:

an estimate of the number of waiting threads.

6.8.2.11 Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::AbstractQueuedSynchronizer::getSharedQueuedThreads () const

Creates and returns a new **Collection** (p. 1000) object that contains only those threads that may be waiting to acquire this Synchronization in shared mode.

Returns:

a **Collection** (p. 1000) pointer that contains waiting threads for shared acquisition. The caller owns the returned pointer.

6.8.2.12 virtual int decaf::util::concurrent::locks::AbstractQueuedSynchronizer::getState () const [protected, virtual]

Gets and returns the currently set value of this object Synchronization sate.

Returns:

the value of the synchronization sate.

6.8.2.13 Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::AbstractQueuedSynchronizer::getWaitingThreads (const AbstractQueuedSynchronizer::ConditionObject * *condition*) const

Creates and returns a new **Collection** (p. 1000) object that contains all the threads that may be waiting on the given ConditionOject instance at the time this method is called.

Returns:

a **Collection** (p. 1000) pointer that contains waiting threads on given **ConditionObject** (p. 1077). The caller owns the returned pointer.

Exceptions:

NullPointerException if the **ConditionObject** (p. 1077) pointer is NULL.

IllegalArgumentException if the **ConditionObject** (p. 1077) is not associated with this Synchronizer.

IllegalMonitorStateException if the caller does not hold exclusive synchronization.

6.8.2.14 int decaf::util::concurrent::locks::AbstractQueuedSynchronizer::getWaitQueueLength (const AbstractQueuedSynchronizer::ConditionObject * *condition*) const

Gets an estimated count of the number of threads that are currently waiting on the given **ConditionObject** (p. 1077), this value changes dynamically so the result of this method can be invalid immediately after it is called. The **ConditionObject** (p. 1077) must be associated with this **AbstractQueuedSynchronizer** (p. 179) or an exception will be thrown.

Returns:

an estimate of the number of waiting threads.

Exceptions:

NullPointerException if the **ConditionObject** (p. 1077) pointer is NULL.

IllegalArgumentException if the **ConditionObject** (p. 1077) is not associated with this Synchronizer.

IllegalMonitorStateException if the caller does not hold exclusive synchronization.

6.8.2.15 bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::hasContended () const

Returns:

true if there has ever been the need for the acquire method to block.

6.8.2.16 bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::hasQueuedThreads () const

Returns:

true if there are threads that are currently waiting to acquire.

6.8.2.17 bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::hasWaiters (const AbstractQueuedSynchronizer::ConditionObject * *condition*) const

Returns true if there are any threads that are currently waiting on the given **ConditionObject** (p. 1077), the condition must be associated with this synchronizer instance.

Returns:

true if the condition object has waiting threads.

Exceptions:

NullPointerException if the **ConditionObject** (p. 1077) pointer is NULL.

IllegalArgumentException if the **ConditionObject** (p. 1077) is not associated with this Synchronizer.

IllegalMonitorStateException if the caller does not hold exclusive synchronization.

6.8.2.18 virtual bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::isHeldExclusively () const [protected, virtual]

If the calling thread hold an exclusive lock on this synchronization then this method returns true, false otherwise. The default behavior is to throw an UnsupportedOperation exception as this method is only needed when **ConditionObject** (p. 1077) is supported.

Returns:

true if this synchronization is held exclusively by the current thread.

Exceptions:

UnsupportedOperationException if **Condition** (p. 1071) objects are not supported.

6.8.2.19 bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::isQueued (decaf::lang::Thread * *thread*) const

Traverse the **Queue** (p. 2500) if waiting threads to see if the given thread is present.

Returns:

true if the given thread is in the wait **Queue** (p. 2500).

Exceptions:

NullPointerException if the thread pointer is NULL.

6.8.2.20 bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::owns (const AbstractQueuedSynchronizer::ConditionObject * *condition*) const

Checks whether the given **ConditionObject** (p. 1077) uses this Synchronizer as its lock object.

Returns:

true if the **ConditionObject** (p. 1077) uses this Synchronizer as its lock.

Exceptions:

NullPointerException if the condition pointer is NULL.

6.8.2.21 bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::release (int *arg*)

When held in exclusive mode this method releases the Synchronizer. This method calls **tryRelease(int)** (p. 189) and if one or more threads is unblocked it returns true. This method forms the basis of **Lock.unlock** (p. 1918).

Parameters:

arg A value used to release, it is passed to tryRelease and not interpreted by this class.

Returns:

the result that is returned from a call to **tryRelease(int)** (p. 189).

6.8.2.22 bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::releaseShared (int *arg*)

When held in shared mode this method releases the Synchronizer. This method calls **tryReleaseShared(int)** (p. 190) and if one or more threads is unblocked it returns true.

Parameters:

arg A value used to release, it is passed to tryReleaseShared and not interpreted by this class.

Returns:

the result that is returned from a call to **tryReleaseShared(int)** (p. 190).

6.8.2.23 virtual void decaf::util::concurrent::locks::AbstractQueuedSynchronizer::setState (int *value*) [protected, virtual]

Sets the synchronization state to the given value.

Parameters:

value The new value to assign to the synchronization state.

6.8.2.24 std::string decaf::util::concurrent::locks::AbstractQueuedSynchronizer::toString () const

Gets a string that identifies this Synchronizer along with its present state. The string contains the state in a bracketed form that contains "State =" and the result of **getState()** (p. 184) and also contains the indicators "nonempty" or "empty" based on whether the thread queue is empty or not.

Returns:

a string value that identifies this **AbstractQueuedSynchronizer** (p. 179).

6.8.2.25 virtual bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::tryAcquire (int *arg*) [protected, virtual]

Performs the actual work of attempting to acquire the lock in exclusive mode. The implementation should acquire the lock in exclusive mode based on its current state or the capabilities of the lock being implemented.

Whenever a thread calls acquire this method is invoked. If the method fails then the acquire method can decide to block the calling thread until signaled that another attempt to acquire should be made.

The default implementation always throws UnsupportedOperationException.

Parameters:

arg The value passed to the acquire method.

Returns:

true if the acquire succeeded, false otherwise.

Exceptions:

IllegalMonitorStateException if the acquire places the object in an invalid state.

UnsupportedOperationException if exclusive mode is not supported.

6.8.2.26 bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::tryAcquireNanos (int *arg*, long long *nanos*)

Acquires in exclusive mode if possible, first checking if the calling thread has already been interrupted or not, then calling **tryAcquire(int)** (p. 188) at least one time and possibly more up to the given timeout, or until the calling thread is interrupted.

Parameters:

arg Value to be passed to **tryAcquire(int)** (p. 188) its meaning is uninterpreted here.

nanos Time in nanoseconds to wait before reporting the acquisition as failed.

Returns:

true if the acquire succeeded, false otherwise.

Exceptions:

InterruptedException if the calling thread is interrupted.

6.8.2.27 virtual int decaf::util::concurrent::locks::AbstractQueuedSynchronizer::tryAcquireShared (int *arg*) [protected, virtual]

Performs the actual work of attempting to acquire the lock in shared mode. The implementation should acquire the lock in exclusive mode based on its current state or the capabilities of the lock being implemented.

Whenever a thread calls acquire this method is invoked. If the method fails then the acquire method can decide to block the calling thread until signaled that another attempt to acquire should be made.

The default implementation always throws UnsupportedOperationException.

Parameters:

arg The value passed to the acquire method.

Returns:

a negative value if the acquire failed, zero if it did succeed but no additional shared mode acquires can, or a positive number if success and future calls amy also succeed.

Exceptions:

IllegalMonitorStateException if the acquire places the object in an invalid state.

UnsupportedOperationException if shared mode is not supported.

6.8.2.28 bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::tryAcquireSharedNanos (int *arg*, long long *nanos*)

Acquires in shared mode if possible, first checking if the calling thread has already been interrupted or not, then calling **tryAcquireShared(int)** (p. 188) at least one time and possibly more up to the given timeout, or until the calling thread is interrupted.

Parameters:

arg Value to be passed to **tryAcquireShared(int)** (p. 188) its meaning is uninterpreted here.

nanos Time in nanoseconds to wait before reporting the acquisition as failed.

Returns:

true if the acquire succeeded, false otherwise.

Exceptions:

InterruptedException if the calling thread is interrupted.

6.8.2.29 virtual bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::tryRelease (int *arg*) [protected, virtual]

Performs a release for the calling thread in exclusive mode. For any thread that performs a release this method will always be invoked.

The default implementation always throws UnsupportedOperationException.

Parameters:

arg The value that was passed to the release method.

Returns:

true if the synchronization is now fully released such that waiting threads can now attempt to acquire it, false if not fully released.

Exceptions:

IllegalMonitorStateException if the release places the object in an invalid state.

UnsupportedOperationException if exclusive mode is not supported.

6.8.2.30 virtual bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::tryReleaseShared (int *arg*) [protected, virtual]

Performs a release for the calling thread in shared mode. For any thread that performs a release this method will always be invoked.

The default implementation always throws UnsupportedOperationException.

Parameters:

arg The value that was passed to the release method.

Returns:

true if the synchronization is now fully released such that waiting threads can now attempt to acquire it, false if not fully released.

Exceptions:

IllegalMonitorStateException if the release places the object in an invalid state.

UnsupportedOperationException if shared mode is not supported.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/locks/**AbstractQueuedSynchronizer.h**

6.9 decaf::util::AbstractSequentialList< E > Class Template Reference

This class provides a skeletal implementation of the **List** (p. 1889) interface to minimize the effort required to implement this interface backed by a "sequential access" data store (such as a linked list).

`#include <src/main/decaf/util/AbstractSequentialList.h>`Inheritance diagram for decaf::util::AbstractSequentialList< E >:

Public Member Functions

- virtual ~**AbstractSequentialList** ()
- virtual **Iterator**< E > * **iterator** ()
- virtual **Iterator**< E > * **iterator** () const
- virtual **ListIterator**< E > * **listIterator** ()
- virtual **ListIterator**< E > * **listIterator** () const
- virtual **ListIterator**< E > * **listIterator** (int index DECAF_UNUSED)
- virtual **ListIterator**< E > * **listIterator** (int index DECAF_UNUSED) const
- virtual E **get** (int index) const

  Gets the element contained at position passed.

  Parameters:

  index *The position to get.*

  Returns:

  value at index specified.

  Exceptions:

  IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*

- virtual E **set** (int index, const E &element)

  Replaces the element at the specified position in this list with the specified element.

  Parameters:

  index *The index of the element to replace.*
  element *The element to be stored at the specified position.*

  Returns:

  the element previously at the specified position.

  Exceptions:

  IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*
  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
  IllegalArgumentException *if some property of the element prevents it from being added to this collection*
  IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

- virtual void **add** (int index, const E &element)

Inserts the specified element at the specified position in this list.
Shifts the element currently at that position (if any) and any subsequent elements to the right (adds one to their indices).

Parameters:

index *The index at which the specified element is to be inserted.*
element *The element to be inserted in this* ***List*** *(p. 1889).*

Exceptions:

IndexOutOfBoundsException *if the index is greater than size of the* ***List*** *(p. 1889).*
UnsupportedOperationExceptio *if this is an unmodifiable collection.*
NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
IllegalArgumentException *if some property of the element prevents it from being added to this collection*
IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

- virtual bool **addAll** (int index, const **Collection**< E > &source)

Inserts all of the elements in the specified collection into this list at the specified position (optional operation).
Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

Parameters:

index *The index at which to insert the first element from the specified collection*
source *The* ***Collection*** *(p. 1000) containing elements to be added to this list*

Returns:

true if this list changed as a result of the call

Exceptions:

IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*
UnsupportedOperationExceptio *if this is an unmodifiable collection.*
NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
IllegalArgumentException *if some property of the element prevents it from being added to this collection*
IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

- virtual E **removeAt** (int index)

Removes the element at the specified position in this list.
Shifts any subsequent elements to the left (subtracts one from their indices). Returns the element that was removed from the list.

Parameters:

index *- the index of the element to be removed.*

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*
UnsupportedOperationExceptio *if this is an unmodifiable collection.*

6.9.1 Detailed Description

template<typename E> class decaf::util::AbstractSequentialList< E >

This class provides a skeletal implementation of the **List** (p. 1889) interface to minimize the effort required to implement this interface backed by a "sequential access" data store (such as a linked list). For random access data (such as an array), **AbstractList** (p. 156) should be used in preference to this class.

This class is the opposite of the **AbstractList** (p. 156) class in the sense that it implements the "random access" methods (get(int index), set(int index, E element), add(int index, E element) and remove(int index)) on top of the list's list iterator, instead of the other way around.

To implement a list the programmer needs only to extend this class and provide implementations for the listIterator and size methods. For an unmodifiable list, the programmer need only implement the list iterator's hasNext, next, hasPrevious, previous and index methods.

For a modifiable list the programmer should additionally implement the list iterator's set method. For a variable-size list the programmer should additionally implement the list iterator's remove and add methods.

The programmer should generally provide a void (no argument) and collection constructor, as per the recommendation in the **Collection** (p. 1000) interface specification.

Since:

1.0

6.9.2 Constructor & Destructor Documentation

6.9.2.1 template<typename E> virtual decaf::util::AbstractSequentialList< E >::~AbstractSequentialList () [inline, virtual]

6.9.3 Member Function Documentation

6.9.3.1 template<typename E> virtual void decaf::util::AbstractSequentialList< E >::add (int index, const E & *element*) [inline, virtual]

Inserts the specified element at the specified position in this list.

Shifts the element currently at that position (if any) and any subsequent elements to the right (adds one to their indices).

Parameters:

index The index at which the specified element is to be inserted.

element The element to be inserted in this **List** (p. 1889).

Exceptions:

IndexOutOfBoundsException if the index is greater than size of the **List** (p. 1889).

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it inserts the specified element with **ListIterator.add** (p. 1901).

Implements **decaf::util::List< E >** (p. 1890).

Reimplemented in **decaf::util::LinkedList< E >** (p. 1872), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1872), **decaf::util::LinkedList< CompositeTask * >** (p. 1872), **decaf::util::LinkedList< URI >** (p. 1872), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1872), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1872), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1872), **decaf::util::LinkedList< decaf::net::URI >** (p. 1872), **decaf::util::LinkedList< Pointer< Command > >** (p. 1872), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1872), **decaf::util::LinkedList< cms::Destination * >** (p. 1872), **decaf::util::LinkedList< cms::Session * >** (p. 1872), and **decaf::util::LinkedList< cms::Connection * >** (p. 1872).

6.9.3.2 template<typename E> virtual bool decaf::util::AbstractSequentialList< E >::addAll (int *index*, const Collection< E > & *source*) [inline, virtual]

Inserts all of the elements in the specified collection into this list at the specified position (optional operation).

Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

Parameters:

index The index at which to insert the first element from the specified collection

source The **Collection** (p. 1000) containing elements to be added to this list

Returns:

true if this list changed as a result of the call

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

This implementation gets an iterator over the specified collection and a list iterator over this list pointing to the indexed element (with listIterator(index)). Then, it iterates over the specified

collection, inserting the elements obtained from the iterator into this list, one at a time, using **ListIterator.add** (p. 1901) (to skip over the added element).

Reimplemented from **decaf::util::AbstractList< E >** (p. 159).

Reimplemented in **decaf::util::LinkedList< E >** (p. 1873), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1873), **decaf::util::LinkedList< CompositeTask * >** (p. 1873), **decaf::util::LinkedList< URI >** (p. 1873), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1873), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1873), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1873), **decaf::util::LinkedList< decaf::net::URI >** (p. 1873), **decaf::util::LinkedList< Pointer< Command > >** (p. 1873), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1873), **decaf::util::LinkedList< cms::Destination * >** (p. 1873), **decaf::util::LinkedList< cms::Session * >** (p. 1873), and **decaf::util::LinkedList< cms::Connection * >** (p. 1873).

6.9.3.3 template<typename E> virtual E decaf::util::AbstractSequentialList< E >::get (int *index*) const [inline, virtual]

Gets the element contained at position passed.

Parameters:

index The position to get.

Returns:

value at index specified.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it gets the element using **ListIterator.next** (p. 1790) and returns it.

Implements **decaf::util::List< E >** (p. 1892).

Reimplemented in **decaf::util::LinkedList< E >** (p. 1877), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1877), **decaf::util::LinkedList< CompositeTask * >** (p. 1877), **decaf::util::LinkedList< URI >** (p. 1877), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1877), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1877), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1877), **decaf::util::LinkedList< decaf::net::URI >** (p. 1877), **decaf::util::LinkedList< Pointer< Command > >** (p. 1877), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1877), **decaf::util::LinkedList< cms::Destination * >** (p. 1877), **decaf::util::LinkedList< cms::Session * >** (p. 1877), and **decaf::util::LinkedList< cms::Connection * >** (p. 1877).

6.9.3.4 template<typename E> virtual Iterator<E>* decaf::util::AbstractSequentialList< E >::iterator () const [inline, virtual]

Reimplemented from **decaf::util::AbstractList< E >** (p. 161).

6.9.3.5 template<typename E> virtual Iterator<E>* decaf::util::AbstractSequentialList< E >::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Reimplemented from **decaf::util::AbstractList< E >** (p. 161).

Referenced by decaf::util::LinkedList< cms::Connection * >::removeFirstOccurrence().

6.9.3.6 template<typename E> virtual ListIterator<E>* decaf::util::AbstractSequentialList< E >::listIterator (int index *DECAF_UNUSED*) const [inline, virtual]

Reimplemented from **decaf::util::AbstractList< E >** (p. 162).

Reimplemented in **decaf::util::LinkedList< E >** (p. 1879), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1879), **decaf::util::LinkedList< CompositeTask * >** (p. 1879), **decaf::util::LinkedList< URI >** (p. 1879), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1879), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1879), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1879), **decaf::util::LinkedList< decaf::net::URI >** (p. 1879), **decaf::util::LinkedList< Pointer< Command > >** (p. 1879), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1879), **decaf::util::LinkedList< cms::Destination * >** (p. 1879), **decaf::util::LinkedList< cms::Session * >** (p. 1879), and **decaf::util::LinkedList< cms::Connection * >** (p. 1879).

6.9.3.7 template<typename E> virtual ListIterator<E>* decaf::util::AbstractSequentialList< E >::listIterator (int index *index*) [inline, virtual]

Parameters:

index index of first element to be returned from the list iterator (by a call to the next method).

Returns:

a list iterator of the elements in this list (in proper sequence), starting at the specified position in this list. The specified index indicates the first element that would be returned by an initial call to next. An initial call to previous would return the element with the specified index minus one.

Exceptions:

IndexOutOfBoundsException if the index is out of range (index < 0 || index > **size()** (p. 1009))

Reimplemented from **decaf::util::AbstractList< E >** (p. 163).

Reimplemented in **decaf::util::LinkedList< E >** (p. 1880), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1880), **decaf::util::LinkedList< CompositeTask * >** (p. 1880), **decaf::util::LinkedList< URI >** (p. 1880), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1880), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1880), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1880),

decaf::util::LinkedList< decaf::net::URI > (p. 1880), **decaf::util::LinkedList< Pointer< Command > >** (p. 1880), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1880), **decaf::util::LinkedList< cms::Destination * >** (p. 1880), **decaf::util::LinkedList< cms::Session * >** (p. 1880), and **decaf::util::LinkedList< cms::Connection * >** (p. 1880).

6.9.3.8 template<typename E> virtual ListIterator<E>* decaf::util::AbstractSequentialList< E >::listIterator () const [inline, virtual]

Reimplemented from **decaf::util::AbstractList< E >** (p. 164).

6.9.3.9 template<typename E> virtual ListIterator<E>* decaf::util::AbstractSequentialList< E >::listIterator () [inline, virtual]

Returns:

a list iterator over the elements in this list (in proper sequence).

Reimplemented from **decaf::util::AbstractList< E >** (p. 164).

Referenced by decaf::util::AbstractSequentialList< cms::Connection * >::add(), decaf::util::AbstractSequentialList< cms::Connection * >::addAll(), decaf::util::AbstractSequentialList< cms::Connection * >::get(), decaf::util::AbstractSequentialList< cms::Connection * >::iterator(), decaf::util::AbstractSequentialList< cms::Connection * >::listIterator(), decaf::util::AbstractSequentialList< cms::Connection * >::removeAt(), and decaf::util::AbstractSequentialList< cms::Connection * >::set().

6.9.3.10 template<typename E> virtual E decaf::util::AbstractSequentialList< E >::removeAt (int index) [inline, virtual]

Removes the element at the specified position in this list.

Shifts any subsequent elements to the left (subtracts one from their indices). Returns the element that was removed from the list.

Parameters:

index - the index of the element to be removed.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it removes the element with **ListIterator.remove** (p. 1790).

Reimplemented from **decaf::util::AbstractList< E >** (p. 165).

6.9.3.11 template<typename E> virtual E decaf::util::AbstractSequentialList< E >::set (int index, const E & *element*) [inline, virtual]

Replaces the element at the specified position in this list with the specified element.

Parameters:

index The index of the element to replace.

element The element to be stored at the specified position.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it gets the current element using **ListIterator.next** (p. 1790) and replaces it with **ListIterator.set** (p. 1902).

Implements **decaf::util::List< E >** (p. 1898).

Reimplemented in **decaf::util::LinkedList< E >** (p. 1886), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1886), **decaf::util::LinkedList< CompositeTask * >** (p. 1886), **decaf::util::LinkedList< URI >** (p. 1886), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1886), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1886), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1886), **decaf::util::LinkedList< decaf::net::URI >** (p. 1886), **decaf::util::LinkedList< Pointer< Command > >** (p. 1886), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1886), **decaf::util::LinkedList< cms::Destination * >** (p. 1886), **decaf::util::LinkedList< cms::Session * >** (p. 1886), and **decaf::util::LinkedList< cms::Connection * >** (p. 1886).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**AbstractSequentialList.h**

6.10 decaf::util::AbstractSet< E > Class Template Reference

This class provides a skeletal implementation of the **Set** (p. 2700) interface to minimize the effort required to implement this interface.

`#include <src/main/decaf/util/AbstractSet.h>`Inheritance diagram for decaf::util::AbstractSet< E >:

Public Member Functions

- virtual ~**AbstractSet** ()
- virtual bool **removeAll** (const **Collection**< E > &collection)

  This implementation iterates over this collection, checking each element returned by the iterator in turn to see if it's contained in the specified collection. If it's so contained, it's removed from this collection with the iterator's remove method.
  Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method and this collection contains one or more elements in common with the specified collection.

6.10.1 Detailed Description

template<typename E> class decaf::util::AbstractSet< E >

This class provides a skeletal implementation of the **Set** (p. 2700) interface to minimize the effort required to implement this interface. The process of implementing a set by extending this class is identical to that of implementing a **Collection** (p. 1000) by extending **AbstractCollection** (p. 141), except that all of the methods and constructors in subclasses of this class must obey the additional constraints imposed by the **Set** (p. 2700) interface (for instance, the add method must not permit addition of multiple instances of an object to a set).

Since:

1.0

6.10.2 Constructor & Destructor Documentation

6.10.2.1 template<typename E> virtual decaf::util::AbstractSet< E >::~AbstractSet () [inline, virtual]

6.10.3 Member Function Documentation

6.10.3.1 template<typename E> virtual bool decaf::util::AbstractSet< E >::removeAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over this collection, checking each element returned by the iterator in turn to see if it's contained in the specified collection. If it's so contained, it's removed from this collection with the iterator's remove method.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method and this collection contains

one or more elements in common with the specified collection. This implementation determines which is the smaller of this set and the specified collection, by invoking the size method on each. If this set has fewer elements, then the implementation iterates over this set, checking each element returned by the iterator in turn to see if it is contained in the specified collection. If it is so contained, it is removed from this set with the iterator's remove method. If the specified collection has fewer elements, then the implementation iterates over the specified collection, removing from this set each element returned by the iterator, using this set's remove method.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 150).

Reimplemented in **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1222).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**AbstractSet.h**

6.11 activemq::transport::AbstractTransportFactory Class Reference

Abstract implementation of the **TransportFactory** (p. 3117) interface, providing the base functionality that's common to most of the **TransportFactory** (p. 3117) instances.

`#include <src/main/activemq/transport/AbstractTransportFactory.h>`Inheritance diagram for activemq::transport::AbstractTransportFactory:

Public Member Functions

- virtual ~**AbstractTransportFactory** ()

Protected Member Functions

- virtual **Pointer**< **wireformat::WireFormat** > **createWireFormat** (const **decaf::util::Properties** &properties)

  Creates the WireFormat that is configured for this ***Transport*** *(p. 3109) and returns it.*

6.11.1 Detailed Description

Abstract implementation of the **TransportFactory** (p. 3117) interface, providing the base functionality that's common to most of the **TransportFactory** (p. 3117) instances.

Since:

3.0

6.11.2 Constructor & Destructor Documentation

6.11.2.1 virtual activemq::transport::AbstractTransportFactory::~AbstractTransportFactory () `[virtual]`

6.11.3 Member Function Documentation

6.11.3.1 virtual Pointer<wireformat::WireFormat> activemq::transport::AbstractTransportFactory::createWireFormat (const decaf::util::Properties & *properties*) `[protected, virtual]`

Creates the WireFormat that is configured for this **Transport** (p. 3109) and returns it. The default WireFormat is Openwire.

Parameters:

properties The properties that were configured on the URI.

Returns:

a pointer to a WireFormat instance that the caller then owns.

Exceptions:

NoSuchElementException if the configured WireFormat is not found.

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**AbstractTransportFactory.h**

6.12 activemq::core::ActiveMQAckHandler Class Reference

Interface class that is used to give CMS Messages an interface to Ack themselves with.

`#include <src/main/activemq/core/ActiveMQAckHandler.h>`

Public Member Functions

- virtual ~**ActiveMQAckHandler** ()
- virtual void **acknowledgeMessage** (const **commands::Message** *message)=0

  Method called to acknowledge the message once it has been received by a MessageConsumer.

6.12.1 Detailed Description

Interface class that is used to give CMS Messages an interface to Ack themselves with.

Since:

2.0

6.12.2 Constructor & Destructor Documentation

6.12.2.1 virtual activemq::core::ActiveMQAckHandler::~ActiveMQAckHandler () [virtual]

6.12.3 Member Function Documentation

6.12.3.1 virtual void activemq::core::ActiveMQAckHandler::acknowledgeMessage (const commands::Message * *message*) [pure virtual]

Method called to acknowledge the message once it has been received by a MessageConsumer.

Parameters:

message The Message to Acknowledge.

Exceptions:

CMSException if an error occurs while acknowledging the given Message.

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQAckHandler.h**

6.13 activemq::commands::ActiveMQBlobMessage Class Reference

`#include <src/main/activemq/commands/ActiveMQBlobMessage.h>`Inheritance diagram for activemq::commands::ActiveMQBlobMessage:

Public Member Functions

- **ActiveMQBlobMessage** ()
- virtual ~**ActiveMQBlobMessage** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQBlobMessage** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual **cms::Message** * **clone** () const

  Clone this message exactly, returns a new instance that the caller is required to delete.

- std::string **getRemoteBlobUrl** () const

  Get the Remote URL of the Blob.

- void **setRemoteBlobUrl** (const std::string &remoteURL)

  Set the Remote URL of the Blob.

- std::string **getMimeType** () const

  Get the Mime Type of the Blob.

- void **setMimeType** (const std::string &mimeType)

  Set the Mime Type of the Blob.

- std::string **getName** () const

  Gets the Name of the Blob.

- void **setName** (const std::string &name)

  Sets the Name of the Blob.

- bool **isDeletedByBroker** () const

Gets if this Blob is deleted by the Broker.

- void **setDeletedByBroker** (bool value)
  Sets the Deleted By Broker flag.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQBLOBMESSAGE** = 29
- static const std::string **BINARY_MIME_TYPE**

6.13.1 Constructor & Destructor Documentation

6.13.1.1 activemq::commands::ActiveMQBlobMessage::ActiveMQBlobMessage ()

6.13.1.2 virtual activemq::commands::ActiveMQBlobMessage::~ActiveMQBlobMessage () throw () [inline, virtual]

6.13.2 Member Function Documentation

6.13.2.1 virtual cms::Message* activemq::commands::ActiveMQBlobMessage::clone () const [inline, virtual]

Clone this message exactly, returns a new instance that the caller is required to delete.

Returns:

new copy of this message

Implements **cms::Message** (p. 2083).

References activemq::commands::Message::setReadOnlyBody(), and activemq::commands::Message::setReadOnlyProperties().

6.13.2.2 virtual ActiveMQBlobMessage* activemq::commands::ActiveMQBlobMessage::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Message** (p. 2063).

6.13.2.3 virtual void activemq::commands::ActiveMQBlobMessage::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Message** (p. 2064).

6.13.2.4 virtual bool activemq::commands::ActiveMQBlobMessage::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 372).

6.13.2.5 virtual unsigned char activemq::commands::ActiveMQBlobMessage::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Message** (p. 2066).

6.13.2.6 std::string activemq::commands::ActiveMQBlobMessage::getMimeType () const [inline]

Get the Mime Type of the Blob.

Returns:

string holding the MIME Type.

6.13.2.7 std::string activemq::commands::ActiveMQBlobMessage::getName () const [inline]

Gets the Name of the Blob.

Returns:

string name of the Blob.

6.13.2.8 std::string activemq::commands::ActiveMQBlobMessage::getRemoteBlobUrl () const [inline]

Get the Remote URL of the Blob.

Returns:

string from of the Remote Blob URL.

6.13.2.9 bool activemq::commands::ActiveMQBlobMessage::isDeletedByBroker () const [inline]

Gets if this Blob is deleted by the Broker.

Returns:

true if the Blob is deleted by the Broker.

6.13.2.10 void activemq::commands::ActiveMQBlobMessage::setDeletedByBroker (bool *value*) [inline]

Sets the Deleted By Broker flag.

Parameters:

value - set the Delete by broker flag to value.

6.13.2.11 void activemq::commands::ActiveMQBlobMessage::setMimeType (const std::string & *mimeType*) [inline]

Set the Mime Type of the Blob.

Parameters:

mimeType - String holding the MIME Type.

6.13.2.12 void activemq::commands::ActiveMQBlobMessage::setName (const std::string & *name*) [inline]

Sets the Name of the Blob.

Parameters:

name - Name of the Blob.

6.13.2.13 void activemq::commands::ActiveMQBlobMessage::setRemoteBlobUrl (const std::string & *remoteURL*) [inline]

Set the Remote URL of the Blob.

Parameters:

remoteURL - String form of the Remote URL.

6.13.2.14 virtual std::string activemq::commands::ActiveMQBlobMessage::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Message** (p. 2073).

6.13.3 Field Documentation

6.13.3.1 const std::string activemq::commands::ActiveMQBlobMessage::BINARY_MIME_TYPE [static]

6.13.3.2 const unsigned char activemq::commands::ActiveMQBlobMessage::ID_ACTIVEMQBLOBMESSAGE = 29 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQBlobMessage.h**

6.14 activemq::wireformat::openwire::marshal::generated::ActiveMQBlo Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQBlobMessageMarshaller** (p. 209).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQBlobMessageMarshaller.`
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller:

Public Member Functions

- **ActiveMQBlobMessageMarshaller** ()
- virtual ~**ActiveMQBlobMessageMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.14.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQBlobMessageMarshaller** (p. 209). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.14.2 Constructor & Destructor Documentation

6.14.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller::Ac () [inline]

6.14.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller::~A () [inline, virtual]

6.14.3 Member Function Documentation

6.14.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller::creat () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.14.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller::getD () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.14.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller::loose (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.14.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller::loose (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.14.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller::tight (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.14.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller::tight (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.14.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller::tight (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2174).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQBlobMessageMarshaller.h**

6.15 activemq::commands::ActiveMQBytesMessage Class Reference

`#include <src/main/activemq/commands/ActiveMQBytesMessage.h>`Inheritance diagram for activemq::commands::ActiveMQBytesMessage:

Public Member Functions

- **ActiveMQBytesMessage** ()
- virtual ~**ActiveMQBytesMessage** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQBytesMessage** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual **cms::BytesMessage** * **clone** () const

  Clones this message.

- virtual void **clearBody** ()

  Clears out the body of the message.

- virtual void **onSend** ()

  *Allows derived **Message** (p. 2059) classes to perform tasks before a message is sent.*

- virtual void **setBodyBytes** (const unsigned char *buffer, int numBytes)

  sets the bytes given to the message body.

- virtual unsigned char * **getBodyBytes** () const

  Gets the bytes that are contained in this message and returns them in a newly allocated array that becomes the property of the caller.

- virtual int **getBodyLength** () const

  Returns the number of bytes contained in the body of this message.

- virtual void **reset** ()

  Puts the message body in read-only mode and repositions the stream of bytes to the beginning.

- virtual bool **readBoolean** () const

Reads a Boolean from the Bytes message stream.

- virtual void **writeBoolean** (bool value)

  Writes a boolean to the bytes message stream as a 1-byte value.

- virtual unsigned char **readByte** () const

  Reads a Byte from the Bytes message stream.

- virtual void **writeByte** (unsigned char value)

  Writes a byte to the bytes message stream as a 1-byte value.

- virtual int **readBytes** (std::vector< unsigned char > &value) const

  Reads a byte array from the bytes message stream.

- virtual void **writeBytes** (const std::vector< unsigned char > &value)

  Writes a byte array to the bytes message stream using the vector size as the number of bytes to write.

- virtual int **readBytes** (unsigned char *buffer, int length) const

  Reads a portion of the bytes message stream.

- virtual void **writeBytes** (const unsigned char *value, int offset, int length)

  Writes a portion of a byte array to the bytes message stream.

- virtual char **readChar** () const

  Reads a Char from the Bytes message stream.

- virtual void **writeChar** (char value)

  Writes a char to the bytes message stream as a 1-byte value.

- virtual float **readFloat** () const

  Reads a 32 bit float from the Bytes message stream.

- virtual void **writeFloat** (float value)

  Writes a float to the bytes message stream as a 4 byte value.

- virtual double **readDouble** () const

  Reads a 64 bit double from the Bytes message stream.

- virtual void **writeDouble** (double value)

  Writes a double to the bytes message stream as a 8 byte value.

- virtual short **readShort** () const

  Reads a 16 bit signed short from the Bytes message stream.

- virtual void **writeShort** (short value)

  Writes a signed short to the bytes message stream as a 2 byte value.

- virtual unsigned short **readUnsignedShort** () const

  Reads a 16 bit unsigned short from the Bytes message stream.

- virtual void **writeUnsignedShort** (unsigned short value)
  Writes a unsigned short to the bytes message stream as a 2 byte value.
- virtual int **readInt** () const
  Reads a 32 bit signed integer from the Bytes message stream.
- virtual void **writeInt** (int value)
  Writes a signed int to the bytes message stream as a 4 byte value.
- virtual long long **readLong** () const
  Reads a 64 bit long from the Bytes message stream.
- virtual void **writeLong** (long long value)
  Writes a long long to the bytes message stream as a 8 byte value.
- virtual std::string **readString** () const
  Reads an ASCII String from the Bytes message stream.
- virtual void **writeString** (const std::string &value)
  Writes an ASCII String to the Bytes message stream.
- virtual std::string **readUTF** () const
  Reads an UTF String from the BytesMessage stream.
- virtual void **writeUTF** (const std::string &value)
  Writes an UTF String to the BytesMessage stream.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQBYTESMESSAGE** = 24

6.15.1 Constructor & Destructor Documentation

6.15.1.1 activemq::commands::ActiveMQBytesMessage::ActiveMQBytesMessage ()

6.15.1.2 virtual activemq::commands::ActiveMQBytesMessage::~ActiveMQBytesMessage () throw () [virtual]

6.15.2 Member Function Documentation

6.15.2.1 virtual void activemq::commands::ActiveMQBytesMessage::clearBody () [virtual]

Clears out the body of the message. This does not clear the headers or properties.

Exceptions:

CMSException - if an internal error occurs.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 371).

6.15.2.2 virtual cms::BytesMessage* activemq::commands::ActiveMQBytesMessage::clone () const [inline, virtual]

Clones this message.

Returns:

a deep copy of this message.

Exceptions:

CMSException - if an internal error occurs while cloning the **Message** (p. 2059).

Implements **cms::BytesMessage** (p. 853).

References activemq::commands::Message::setReadOnlyBody(), and activemq::commands::Message::setReadOnlyProperties().

6.15.2.3 virtual ActiveMQBytesMessage* activemq::commands::ActiveMQBytesMessage::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Message** (p. 2063).

6.15.2.4 virtual void activemq::commands::ActiveMQBytesMessage::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Message** (p. 2064).

6.15.2.5 virtual bool activemq::commands::ActiveMQBytesMessage::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 372).

6.15.2.6 virtual unsigned char* activemq::commands::ActiveMQBytesMessage::getBodyBytes () const [virtual]

Gets the bytes that are contained in this message and returns them in a newly allocated array that becomes the property of the caller. This is a copy of the data contained in this message, changing the value contained in this array has no effect on the data contained in this message.

Returns:

pointer to a byte buffer that the call owns upon completion of this method.

Exceptions:

CMSException - If an internal error occurs.

MessageNotReadableException - If the message is in Write Only Mode.

Implements **cms::BytesMessage** (p. 854).

6.15.2.7 virtual int activemq::commands::ActiveMQBytesMessage::getBodyLength () const [virtual]

Returns the number of bytes contained in the body of this message.

Returns:

number of bytes.

Exceptions:

CMSException - If an internal error occurs.

MessageNotReadableException - If the message is in Write Only Mode.

Implements **cms::BytesMessage** (p. 854).

6.15.2.8 virtual unsigned char activemq::commands::ActiveMQBytesMessage::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Message** (p. 2066).

6.15.2.9 virtual void activemq::commands::ActiveMQBytesMessage::onSend () [virtual]

Allows derived **Message** (p. 2059) classes to perform tasks before a message is sent.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 373).

6.15.2.10 virtual bool activemq::commands::ActiveMQBytesMessage::readBoolean () const [virtual]

Reads a Boolean from the Bytes message stream.

Returns:

boolean value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 854).

6.15.2.11 virtual unsigned char activemq::commands::ActiveMQBytesMessage::readByte () const [virtual]

Reads a Byte from the Bytes message stream.

Returns:

unsigned char value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 855).

6.15.2.12 virtual int activemq::commands::ActiveMQBytesMessage::readBytes (unsigned char * *buffer*, int *length*) const [virtual]

Reads a portion of the bytes message stream. If the length of array value is less than the number of bytes remaining to be read from the stream, the array should be filled. A subsequent call reads the next increment, and so on.

If the number of bytes remaining in the stream is less than the length of array value, the bytes should be read into the array. The return value of the total number of bytes read will be less than the length of the array, indicating that there are no more bytes left to be read from the stream. The next read of the stream returns -1.

If length is negative, or length is greater than the length of the array value, then an IndexOutOfBoundsException is thrown. No bytes will be read from the stream for this exception case.

Parameters:

buffer the buffer into which the data is read

length the number of bytes to read; must be less than or equal to value.length

Returns:

the total number of bytes read into the buffer, or -1 if there is no more data because the end of the stream has been reached

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.
MessageEOFException - if unexpected end of bytes stream has been reached.
MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 855).

6.15.2.13 virtual int activemq::commands::ActiveMQBytesMessage::readBytes (std::vector< unsigned char > & *value*) const [virtual]

Reads a byte array from the bytes message stream. If the length of vector value is less than the number of bytes remaining to be read from the stream, the vector should be filled. A subsequent call reads the next increment, and so on.

If the number of bytes remaining in the stream is less than the length of vector value, the bytes should be read into the vector. The return value of the total number of bytes read will be less than the length of the vector, indicating that there are no more bytes left to be read from the stream. The next read of the stream returns -1.

Parameters:

value buffer to place data in

Returns:

the total number of bytes read into the buffer, or -1 if there is no more data because the end of the stream has been reached

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.
MessageEOFException - if unexpected end of bytes stream has been reached.
MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 856).

6.15.2.14 virtual char activemq::commands::ActiveMQBytesMessage::readChar () const [virtual]

Reads a Char from the Bytes message stream.

Returns:

char value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.
MessageEOFException - if unexpected end of bytes stream has been reached.
MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 856).

6.15.2.15 virtual double activemq::commands::ActiveMQBytesMessage::readDouble () const [virtual]

Reads a 64 bit double from the Bytes message stream.

Returns:

double value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 856).

6.15.2.16 virtual float activemq::commands::ActiveMQBytesMessage::readFloat () const [virtual]

Reads a 32 bit float from the Bytes message stream.

Returns:

double value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 857).

6.15.2.17 virtual int activemq::commands::ActiveMQBytesMessage::readInt () const [virtual]

Reads a 32 bit signed integer from the Bytes message stream.

Returns:

int value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 857).

6.15.2.18 virtual long long activemq::commands::ActiveMQBytesMessage::readLong () const [virtual]

Reads a 64 bit long from the Bytes message stream.

Returns:

long long value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 857).

6.15.2.19 virtual short activemq::commands::ActiveMQBytesMessage::readShort () const [virtual]

Reads a 16 bit signed short from the Bytes message stream.

Returns:

short value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 858).

6.15.2.20 virtual std::string activemq::commands::ActiveMQBytesMessage::readString () const [virtual]

Reads an ASCII String from the Bytes message stream.

Returns:

String from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 858).

6.15.2.21 virtual unsigned short activemq::commands::ActiveMQBytesMessage::readUnsignedShort () const [virtual]

Reads a 16 bit unsigned short from the Bytes message stream.

Returns:

unsigned short value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 858).

6.15.2.22 virtual std::string activemq::commands::ActiveMQBytesMessage::readUTF () const [virtual]

Reads an UTF String from the BytesMessage stream.

Returns:

String from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of bytes stream has been reached.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::BytesMessage** (p. 859).

6.15.2.23 virtual void activemq::commands::ActiveMQBytesMessage::reset () [virtual]

Puts the message body in read-only mode and repositions the stream of bytes to the beginning.

Exceptions:

CMSException - If the provider fails to perform the reset operation.

MessageFormatException - If the **Message** (p. 2059) has an invalid format.

Implements **cms::BytesMessage** (p. 859).

6.15.2.24 virtual void activemq::commands::ActiveMQBytesMessage::setBodyBytes (const unsigned char * *buffer*, int *numBytes*) [virtual]

sets the bytes given to the message body.

Parameters:

buffer Byte Buffer to copy
numBytes Number of bytes in Buffer to copy

Exceptions:

CMSException - If an internal error occurs.
MessageNotWriteableException - if in Read Only Mode.

Implements **cms::BytesMessage** (p. 859).

6.15.2.25 virtual std::string activemq::commands::ActiveMQBytesMessage::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Message** (p. 2073).

6.15.2.26 virtual void activemq::commands::ActiveMQBytesMessage::writeBoolean (bool *value*) [virtual]

Writes a boolean to the bytes message stream as a 1-byte value. The value true is written as the value (byte)1; the value false is written as the value (byte)0.

Parameters:

value boolean to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.
MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 860).

6.15.2.27 virtual void activemq::commands::ActiveMQBytesMessage::writeByte (unsigned char *value*) [virtual]

Writes a byte to the bytes message stream as a 1-byte value.

Parameters:

value byte to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.
MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 860).

6.15.2.28 virtual void activemq::commands::ActiveMQBytesMessage::writeBytes (const unsigned char * *value*, int *offset*, int *length*) [virtual]

Writes a portion of a byte array to the bytes message stream. size as the number of bytes to write.

Parameters:

value bytes to write to the stream

offset the initial offset within the byte array

length the number of bytes to use

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 860).

6.15.2.29 virtual void activemq::commands::ActiveMQBytesMessage::writeBytes (const std::vector< unsigned char > & *value*) [virtual]

Writes a byte array to the bytes message stream using the vector size as the number of bytes to write.

Parameters:

value bytes to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 861).

6.15.2.30 virtual void activemq::commands::ActiveMQBytesMessage::writeChar (char *value*) [virtual]

Writes a char to the bytes message stream as a 1-byte value.

Parameters:

value char to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 861).

6.15.2.31 virtual void activemq::commands::ActiveMQBytesMessage::writeDouble (double *value*) [virtual]

Writes a double to the bytes message stream as a 8 byte value.

Parameters:

value double to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 861).

6.15.2.32 virtual void activemq::commands::ActiveMQBytesMessage::writeFloat (float *value*) [virtual]

Writes a float to the bytes message stream as a 4 byte value.

Parameters:

value float to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 862).

6.15.2.33 virtual void activemq::commands::ActiveMQBytesMessage::writeInt (int *value*) [virtual]

Writes a signed int to the bytes message stream as a 4 byte value.

Parameters:

value signed int to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 862).

6.15.2.34 virtual void activemq::commands::ActiveMQBytesMessage::writeLong (long long *value*) [virtual]

Writes a long long to the bytes message stream as a 8 byte value.

Parameters:

value signed long long to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 862).

6.15.2.35 virtual void activemq::commands::ActiveMQBytesMessage::writeShort (short *value*) [virtual]

Writes a signed short to the bytes message stream as a 2 byte value.

Parameters:

value signed short to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 862).

6.15.2.36 virtual void activemq::commands::ActiveMQBytesMessage::writeString (const std::string & *value*) [virtual]

Writes an ASCII String to the Bytes message stream.

Parameters:

value String to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 863).

6.15.2.37 virtual void activemq::commands::ActiveMQBytesMessage::writeUnsignedShort (unsigned short *value*) [virtual]

Writes a unsigned short to the bytes message stream as a 2 byte value.

Parameters:

value unsigned short to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 863).

6.15.2.38 virtual void activemq::commands::ActiveMQBytesMessage::writeUTF (const std::string & *value*) [virtual]

Writes an UTF String to the BytesMessage stream.

Parameters:

value String to write to the stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::BytesMessage** (p. 863).

6.15.3 Field Documentation

6.15.3.1 const unsigned char activemq::commands::ActiveMQBytesMessage::ID_ACTIVEMQBYTESMESSAGE = 24 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQBytesMessage.h**

6.16 activemq::wireformat::openwire::marshal::generated::ActiveMQByt Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQBytesMessageMarshaller** (p. 228).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQBytesMessageMarshaller`
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller:

Public Member Functions

- **ActiveMQBytesMessageMarshaller** ()
- virtual ~**ActiveMQBytesMessageMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.16.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQBytesMessageMarshaller** (p. 228). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.16.2 Constructor & Destructor Documentation

6.16.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller::A () [inline]

6.16.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller::~ () [inline, virtual]

6.16.3 Member Function Documentation

6.16.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller::crea () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.16.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller::getI () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.16.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller::loos (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.16.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller::loos (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.16.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller::tigh (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.16.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller::tigh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.16.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller::tigh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2174).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQBytesMessageMarshaller.h**

6.17 activemq::core::ActiveMQConnection Class Reference

Concrete connection used for all connectors to the ActiveMQ broker.

`#include <src/main/activemq/core/ActiveMQConnection.h>`Inheritance diagram for activemq::core::ActiveMQConnection:

Public Member Functions

- **ActiveMQConnection** (const **Pointer< transport::Transport >** transport, const **Pointer< decaf::util::Properties >** properties)

  Constructor.

- virtual ~**ActiveMQConnection** ()
- virtual void **addSession** (**Pointer< activemq::core::kernels::ActiveMQSessionKernel >** session)

  Adds the session resources for the given session instance.

- virtual void **removeSession** (**Pointer< activemq::core::kernels::ActiveMQSessionKernel >** session)

  Removes the session resources for the given session instance.

- virtual void **addProducer** (**Pointer< kernels::ActiveMQProducerKernel >** producer)

  Adds an active Producer to the Set of known producers.

- virtual void **removeProducer** (const **Pointer< commands::ProducerId >** &producerId)

  Removes an active Producer to the Set of known producers.

- virtual void **addDispatcher** (const **Pointer< commands::ConsumerId >** &consumer, **Dispatcher** *dispatcher)

  Adds a dispatcher for a consumer.

- virtual void **removeDispatcher** (const **Pointer< commands::ConsumerId >** &consumer)

  Removes the dispatcher for a consumer.

- virtual void **sendPullRequest** (const **commands::ConsumerInfo** *consumer, long long timeout)

  If supported sends a message pull request to the service provider asking for the delivery of a new message.

- bool **isClosed** () const

  Checks if this connection has been closed.

- bool **isStarted** () const

  Check if this connection has been started.

- bool **isTransportFailed** () const

  Checks if the Connection's Transport has failed.

- virtual void **destroyDestination** (const **commands::ActiveMQDestination** *destination)

  Requests that the Broker removes the given Destination.

- virtual void **destroyDestination** (const **cms::Destination** *destination)

  Requests that the Broker removes the given Destination.

- bool **isDuplicate** (**Dispatcher** *dispatcher, **Pointer< commands::Message >** message)

  Allows Consumers to check if an incoming Message is a Duplicate.

- void **rollbackDuplicate** (**Dispatcher** *dispatcher, **Pointer< commands::Message >** message)

  Mark message as received.

- virtual const **cms::ConnectionMetaData** * **getMetaData** () const

  Gets the metadata for this connection.
  Returns:

  the connection MetaData pointer (caller does not own it).
  Exceptions:

  CMSException (p. ***973***) *if the provider fails to get the connection metadata for this connection.*
  See also:

  ConnectionMetaData (p. *1134*)
  Since:

  2.0

- virtual **cms::Session** * **createSession** ()

  Creates an AUTO_ACKNOWLEDGE ***Session*** (p. *2665*).
  Exceptions:

  CMSException (p. ***973***)

- virtual std::string **getClientID** () const

  Get the Client Id for this session, the client Id is provider specific and is either assigned by the connection factory or set using the setClientID method.
  Returns:

  Client Id String for this ***Connection*** (p. *1083*).
  Exceptions:

  CMSException (p. ***973***) *if the provider fails to return the client id or an internal error occurs.*

- virtual void **setClientID** (const std::string &clientID)

  Sets the client identifier for this connection.
  The preferred way to assign a CMS client's client identifier is for it to be configured in a client-specific ***ConnectionFactory*** (p. *1108*) *object and transparently assigned to the* ***Connection*** (p. *1083*) *object it creates.*

If a client sets the client identifier explicitly, it must do so immediately after it creates the connection and before any other action on the connection is taken. After this point, setting the client identifier is a programming error that should throw an ***IllegalStateException*** *(p. 1645).*

Parameters:

clientID *The unique client identifier to assign to the* ***Connection*** *(p. 1083).*

Exceptions:

CMSException *(p. 973) if the provider fails to set the client id due to some internal error.*
InvalidClientIDException *if the id given is somehow invalid or is a duplicate.*
IllegalStateException *(p. 1645) if the client tries to set the id after a* ***Connection*** *(p. 1083) method has been called.*

- virtual **cms::Session** * **createSession** (**cms::Session::AcknowledgeMode** ackMode)

  Creates a new ***Session*** *(p. 2665) to work for this* ***Connection*** *(p. 1083) using the specified acknowledgment mode.*

  Parameters:

  ackMode *the Acknowledgment Mode to use.*

  Exceptions:

  CMSException *(p. 973)*

- virtual void **close** ()

  Closes this connection as well as any Sessions created from it (and those Sessions' consumers and producers).

  Exceptions:

  CMSException *(p. 973)*

- virtual void **start** ()

  Starts the service.

  Exceptions:

  CMSException *(p. 973) if an internal error occurs while starting.*

- virtual void **stop** ()

  Stops this service.

  Exceptions:

  CMSException *(p. 973) - if an internal error occurs while stopping the Service.*

- virtual **cms::ExceptionListener** * **getExceptionListener** () const

  Gets the registered Exception Listener for this connection.

  Returns:

  pointer to an exception listener or NULL

- virtual void **setExceptionListener** (**cms::ExceptionListener** *listener)

  Sets the registered Exception Listener for this connection.

  Parameters:

  listener *pointer to and* ***ExceptionListener*** *(p. 1452)*

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

*Set an **MessageTransformer** (p. 2206) instance that is passed on to all **Session** (p. 2665) objects created from this **Connection** (p. 1083).*
*The CMS **code** (p. 999) never takes ownership of the **MessageTransformer** (p. 2206) pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the **MessageTransformer** (p. 2206) has been assigned.*
Parameters:

transformer *Pointer to the **cms::MessageTransformer** (p. 2206) to set on all newly created **Session** (p. 2665) objects.*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  *Gets the currently configured **MessageTransformer** (p. 2206) for this **Connection** (p. 1083).*
  Returns:

  *the pointer to the currently set **cms::MessageTransformer** (p. 2206).*

- void **setUsername** (const std::string &username)

  Sets the username that should be used when creating a new connection.

- const std::string & **getUsername** () const

  Gets the username that this factory will use when creating a new connection instance.

- void **setPassword** (const std::string &password)

  Sets the password that should be used when creating a new connection.

- const std::string & **getPassword** () const

  Gets the password that this factory will use when creating a new connection instance.

- void **setDefaultClientId** (const std::string &clientId)

  Sets the Client Id.

- void **setBrokerURL** (const std::string &brokerURL)

  Sets the Broker URL that should be used when creating a new connection instance.

- const std::string & **getBrokerURL** () const

  Gets the Broker URL that this factory will use when creating a new connection instance.

- void **setPrefetchPolicy** (**PrefetchPolicy** *policy)

  *Sets the **PrefetchPolicy** (p. 2382) instance that this factory should use when it creates new Connection instances.*

- **PrefetchPolicy** * **getPrefetchPolicy** () const

  *Gets the pointer to the current **PrefetchPolicy** (p. 2382) that is in use by this ConnectionFactory.*

- void **setRedeliveryPolicy** (**RedeliveryPolicy** *policy)

  *Sets the **RedeliveryPolicy** (p. 2527) instance that this factory should use when it creates new Connection instances.*

- **RedeliveryPolicy** * **getRedeliveryPolicy** () const

  *Gets the pointer to the current **RedeliveryPolicy** (p. 2527) that is in use by this ConnectionFactory.*

- bool **isDispatchAsync** () const
- void **setDispatchAsync** (bool value)

  Should messages be dispatched synchronously or asynchronously from the producer thread for non-durable topics in the broker? For fast consumers set this to false.

- bool **isAlwaysSyncSend** () const

  Gets if the Connection should always send things Synchronously.

- void **setAlwaysSyncSend** (bool value)

  Sets if the Connection should always send things Synchronously.

- bool **isUseAsyncSend** () const

  Gets if the useAsyncSend option is set.

- void **setUseAsyncSend** (bool value)

  Sets the useAsyncSend option.

- bool **isUseCompression** () const

  Gets if the Connection is configured for Message body compression.

- void **setUseCompression** (bool value)

  Sets whether Message body compression is enabled.

- void **setCompressionLevel** (int value)

  Sets the Compression level used when Message body compression is enabled, a value of -1 causes the Compression Library to use the default setting which is a balance of speed and compression.

- int **getCompressionLevel** () const

  Gets the currently configured Compression level for Message bodies.

- unsigned int **getSendTimeout** () const

  Gets the assigned send timeout for this Connector.

- void **setSendTimeout** (unsigned int timeout)

  Sets the send timeout to use when sending Message objects, this will cause all messages to be sent using a Synchronous request is non-zero.

- unsigned int **getCloseTimeout** () const

  Gets the assigned close timeout for this Connector.

- void **setCloseTimeout** (unsigned int timeout)

  Sets the close timeout to use when sending the disconnect request.

- unsigned int **getProducerWindowSize** () const

  Gets the configured producer window size for Producers that are created from this connector.

- void **setProducerWindowSize** (unsigned int windowSize)

  Sets the size in Bytes of messages that a producer can send before it is blocked to await a ProducerAck from the broker that frees enough memory to allow another message to be sent.

- bool **isMessagePrioritySupported** () const
- void **setMessagePrioritySupported** (bool value)

  Set whether or not this factory should create Connection objects with the Message priority support function enabled.

- long long **getNextTempDestinationId** ()

  Get the Next Temporary Destination Id.

- long long **getNextLocalTransactionId** ()

  Get the Next Temporary Destination Id.

- bool **isWatchTopicAdvisories** () const

  *Is the Connection configured to watch for advisory messages to maintain **state** (p. 70) of temporary destination create and destroy.*

- void **setWatchTopicAdvisories** (bool value)

  Sets whether this Connection is listening for advisory messages regarding temporary destination creation and deletion.

- int **getAuditDepth** () const

  *Get the audit depth for Messages for consumers when using a fault tolerant **transport** (p. 72).*

- void **setAuditDepth** (int auditDepth)

  *Set the audit depth for Messages for consumers when using a fault tolerant **transport** (p. 72).*

- int **getAuditMaximumProducerNumber** () const

  The number of Producers that will be audited.

- void **setAuditMaximumProducerNumber** (int auditMaximumProducerNumber)

  The number of Producers that will be audited.

- bool **isCheckForDuplicates** () const

  Gets the value of the configured Duplicate Message detection feature.

- void **setCheckForDuplicates** (bool checkForDuplicates)

  Gets the value of the configured Duplicate Message detection feature.

- bool **isTransactedIndividualAck** () const

  when true, submit individual transacted acks immediately rather than with transaction completion.

- void **setTransactedIndividualAck** (bool transactedIndividualAck)

  when true, submit individual transacted acks immediately rather than with transaction completion.

- bool **isNonBlockingRedelivery** () const

  Returns true if non-blocking redelivery of Messages is configured for Consumers that are rolled back or recovered.

- void **setNonBlockingRedelivery** (bool nonBlockingRedelivery)

When true a MessageConsumer will not stop Message delivery before re-delivering Messages from a rolled back transaction.

- long long **getConsumerFailoverRedeliveryWaitPeriod** () const

  Gets the delay period for a consumer redelivery.

- void **setConsumerFailoverRedeliveryWaitPeriod** (long long value)

  Sets the delay period for a consumer redelivery.

- bool **isOptimizeAcknowledge** () const
- void **setOptimizeAcknowledge** (bool optimizeAcknowledge)

  Sets if Consumers are configured to use Optimized Acknowledge by default.

- long long **getOptimizeAcknowledgeTimeOut** () const

  Gets the time between optimized ack batches in milliseconds.

- void **setOptimizeAcknowledgeTimeOut** (long long optimizeAcknowledgeTimeOut)

  The max time in milliseconds between optimized ack batches.

- long long **getOptimizedAckScheduledAckInterval** () const

  Gets the configured time interval that is used to force all MessageConsumers that have optimizedAcknowledge enabled to send an ack for any outstanding Message Acks.

- void **setOptimizedAckScheduledAckInterval** (long long optimizedAckScheduledAckInterval)

  Sets the amount of time between scheduled sends of any outstanding Message Acks for consumers that have been configured with optimizeAcknowledge enabled.

- bool **isUseRetroactiveConsumer** () const

  Should all created consumers be retroactive.

- void **setUseRetroactiveConsumer** (bool useRetroactiveConsumer)

  Sets whether or not retroactive consumers are enabled.

- bool **isExclusiveConsumer** () const

  Should all created consumers be exclusive.

- void **setExclusiveConsumer** (bool exclusiveConsumer)

  Enables or disables whether or not queue consumers should be exclusive or not for example to preserve ordering when not using Message Groups.

- bool **isSendAcksAsync** () const

  Returns whether Message acknowledgments are sent asynchronously meaning no response is required from the broker before the ack completes.

- void **setSendAcksAsync** (bool sendAcksAsync)

  Sets whether Message acknowledgments are sent asynchronously meaning no response is required from the broker before the ack completes.

- void **addTransportListener** (**transport::TransportListener** *transportListener)

*Adds a **transport** (p. 72) listener so that a client can be notified of events in the underlying **transport** (p. 72), client's are always notified after the event has been processed by the Connection class.*

- void **removeTransportListener** (**transport::TransportListener** *transportListener)

  Removes a registered TransportListener from the Connection's set of Transport listeners, this listener will no longer receive any Transport related events.

- virtual void **onCommand** (const **Pointer< commands::Command >** command)

  *Event handler for the receipt of a non-response command from the **transport** (p. 72).*

- virtual void **onException** (const **decaf::lang::Exception** &ex)

  *Event handler for an exception from a command **transport** (p. 72).*

- virtual void **transportInterrupted** ()

  *The **transport** (p. 72) has suffered an interruption from which it hopes to recover.*

- virtual void **transportResumed** ()

  *The **transport** (p. 72) has resumed after an interruption.*

- const **commands::ConnectionInfo** & **getConnectionInfo** () const

  Gets the ConnectionInfo for this Object, if the Connection is not open than this method throws an exception.

- const **commands::ConnectionId** & **getConnectionId** () const

  Gets the ConnectionId for this Object, if the Connection is not open than this method throws an exception.

- **transport::Transport** & **getTransport** () const

  Gets a reference to this object's Transport instance.

- **Pointer< threads::Scheduler >** **getScheduler** () const

  Gets a reference to the Connection objects built in Scheduler instance.

- std::string **getResourceManagerId** () const

  Returns the Id of the Resource Manager that this client will use should it be entered into an XA Transaction.

- void **cleanup** ()

  *Clean up this connection object, reseting it back to a **state** (p. 70) that mirrors what a newly created **ActiveMQConnection** (p. 232) object has.*

- void **oneway** (**Pointer< commands::Command >** command)

  Sends a message without request that the broker send a response to indicate that it was received.

- **Pointer< commands::Response >** **syncRequest** (**Pointer< commands::Command >** command, unsigned int timeout=0)

  Sends a synchronous request and returns the response from the broker.

- void **asyncRequest** (**Pointer< commands::Command >** command, **cms::AsyncCallback** *onComplete)

Sends a synchronous request and returns the response from the broker.

- virtual void **fire** (const **exceptions::ActiveMQException** &ex)

  Notify the exception listener.

- void **setTransportInterruptionProcessingComplete** ()

  Indicates that a Connection resource that is processing the transportInterrupted event has completed.

- void **setFirstFailureError** (**decaf::lang::Exception** *error)

  Sets the pointer to the first exception that caused the Connection to become failed.

- **decaf::lang::Exception** * **getFirstFailureError** () const

  Gets the pointer to the first exception that caused the Connection to become failed.

- void **onAsyncException** (const **decaf::lang::Exception** &ex)

  *Event handler for dealing with async **exceptions** (p. 67).*

- void **onClientInternalException** (const **decaf::lang::Exception** &ex)

  *Handles async client internal **exceptions** (p. 67) which don't usually affect the connection itself.*

- void **checkClosed** () const

  Check for Closed State and Throw an exception if true.

- void **checkClosedOrFailed** () const

  Check for Closed State and Failed State and Throw an exception if either is true.

- void **ensureConnectionInfoSent** ()

  If its not been sent, then send the ConnectionInfo to the Broker.

- **decaf::util::concurrent::ExecutorService** * **getExecutor** () const
- void **addTempDestination** (**Pointer**< **commands::ActiveMQTempDestination** > destination)

  Adds the given Temporary Destination to this Connections collection of known Temporary Destinations.

- void **removeTempDestination** (**Pointer**< **commands::ActiveMQTempDestination** > destination)

  Removes the given Temporary Destination to this Connections collection of known Temporary Destinations.

- void **deleteTempDestination** (**Pointer**< **commands::ActiveMQTempDestination** > destination)

  Removes the given Temporary Destination to this Connections collection of known Temporary Destinations.

- void **cleanUpTempDestinations** ()

  *Removes any TempDestinations that this connection has cached, ignoring any **exceptions** (p. 67) generated because the destination is in use as they should not be removed.*

- bool **isDeleted** (**Pointer< commands::ActiveMQTempDestination >** destination) const

  Determines whether the supplied Temporary Destination has already been deleted from the Broker.

Protected Member Functions

- virtual **Pointer< commands::SessionId > getNextSessionId** ()
- void **disconnect** (long long lastDeliveredSequenceId)
- void **waitForTransportInterruptionProcessingToComplete** ()
- void **signalInterruptionProcessingComplete** ()
- const **decaf::util::Properties** & **getProperties** () const
- void **onControlCommand** (**Pointer< commands::Command >** command)
- void **onConnectionControl** (**Pointer< commands::Command >** command)
- void **onConsumerControl** (**Pointer< commands::Command >** command)

6.17.1 Detailed Description

Concrete connection used for all connectors to the ActiveMQ broker.

Since:

2.0

6.17.2 Constructor & Destructor Documentation

6.17.2.1 activemq::core::ActiveMQConnection::ActiveMQConnection (const Pointer< transport::Transport > *transport*, const Pointer< decaf::util::Properties > *properties*)

Constructor.

Parameters:

transport *(p. 72)* The Transport requested for this connection to the Broker.

properties The Properties that were defined for this connection

6.17.2.2 virtual activemq::core::ActiveMQConnection::~ActiveMQConnection () [virtual]

6.17.3 Member Function Documentation

6.17.3.1 virtual void activemq::core::ActiveMQConnection::addDispatcher (const Pointer< commands::ConsumerId > & *consumer*, Dispatcher * *dispatcher*) [virtual]

Adds a dispatcher for a consumer.

Parameters:

consumer - The consumer for which to register a dispatcher.

dispatcher - The dispatcher to handle incoming messages for the consumer.

Exceptions:

CMSException if an error occurs while removing performing the operation.

6.17.3.2 virtual void activemq::core::ActiveMQConnection::addProducer (Pointer< kernels::ActiveMQProducerKernel > *producer*) [virtual]

Adds an active Producer to the Set of known producers.

Parameters:

producer The Producer to add from the the known set.

Exceptions:

CMSException if an error occurs while removing performing the operation.

6.17.3.3 virtual void activemq::core::ActiveMQConnection::addSession (Pointer< activemq::core::kernels::ActiveMQSessionKernel > *session*) [virtual]

Adds the session resources for the given session instance.

Parameters:

session The session to be added to this connection.

Exceptions:

CMSException if an error occurs while removing performing the operation.

6.17.3.4 void activemq::core::ActiveMQConnection::addTempDestination (Pointer< commands::ActiveMQTempDestination > *destination*)

Adds the given Temporary Destination to this Connections collection of known Temporary Destinations.

Parameters:

destination The temporary destination that this connection should track.

6.17.3.5 void activemq::core::ActiveMQConnection::addTransportListener (transport::TransportListener * *transportListener*)

Adds a **transport** (p. 72) listener so that a client can be notified of events in the underlying **transport** (p. 72), client's are always notified after the event has been processed by the Connection class. Client's should ensure that the registered listener does not block or take a long amount of time to execute in order to not degrade performance of this Connection.

Parameters:

transportListener The TransportListener instance to add to this Connection's set of listeners to notify of Transport events.

6.17.3.6 void activemq::core::ActiveMQConnection::asyncRequest (Pointer< commands::Command > *command*, cms::AsyncCallback * *onComplete*)

Sends a synchronous request and returns the response from the broker. This method converts any error responses it receives into an exception.

Parameters:

command The Command object that is to be sent to the broker.

onComplete Completion callback that will be notified on send success or failure.

Exceptions:

BrokerException if the response from the broker is of type ExceptionResponse.

ActiveMQException if any other error occurs while sending the Command.

6.17.3.7 void activemq::core::ActiveMQConnection::checkClosed () const

Check for Closed State and Throw an exception if true.

Exceptions:

CMSException if the Connection is closed.

6.17.3.8 void activemq::core::ActiveMQConnection::checkClosedOrFailed () const

Check for Closed State and Failed State and Throw an exception if either is true.

Exceptions:

CMSException if the Connection is closed or failed.

6.17.3.9 void activemq::core::ActiveMQConnection::cleanup ()

Clean up this connection object, reseting it back to a **state** (p. 70) that mirrors what a newly created **ActiveMQConnection** (p. 232) object has.

6.17.3.10 void activemq::core::ActiveMQConnection::cleanUpTempDestinations ()

Removes any TempDestinations that this connection has cached, ignoring any **exceptions** (p. 67) generated because the destination is in use as they should not be removed. This method is useful for Connection pools that retain connection objects for long durations and want to periodically purge old temporary destination instances this connection is tracking.

6.17.3.11 virtual void activemq::core::ActiveMQConnection::close () [virtual]

Closes this connection as well as any Sessions created from it (and those Sessions' consumers and producers).

Exceptions:

CMSException *(*p. ***973)***

Implements **cms::Connection** (p. 1084).

6.17.3.12 virtual cms::Session* activemq::core::ActiveMQConnection::createSession (cms::Session::AcknowledgeMode *ackMode*) [virtual]

Creates a new **Session** (p. 2665) to work for this **Connection** (p. 1083) using the specified acknowledgment mode.

Parameters:

ackMode the Acknowledgment Mode to use.

Exceptions:

CMSException *(*p. ***973)***

Implements **cms::Connection** (p. 1085).

Reimplemented in **activemq::core::ActiveMQXAConnection** (p. 537).

6.17.3.13 virtual cms::Session* activemq::core::ActiveMQConnection::createSession () [virtual]

Creates an AUTO_ACKNOWLEDGE **Session** (p. 2665).

Exceptions:

CMSException *(*p. ***973)***

Implements **cms::Connection** (p. 1085).

6.17.3.14 void activemq::core::ActiveMQConnection::deleteTempDestination (Pointer< commands::ActiveMQTempDestination > *destination*)

Removes the given Temporary Destination to this Connections collection of known Temporary Destinations.

Parameters:

destination The temporary destination that this connection should remove from the Broker.

Exceptions:

CMSException if the temporary destination is in use by an active Session.

6.17.3.15 virtual void activemq::core::ActiveMQConnection::destroyDestination (const cms::Destination * *destination*) [virtual]

Requests that the Broker removes the given Destination. Calling this method implies that the client is finished with the Destination and that no other messages will be sent or received for the given Destination. The Broker frees all resources it has associated with this Destination.

Parameters:

destination The CMS Destination the Broker will be requested to remove.

Exceptions:

NullPointerException If the passed Destination is Null

IllegalStateException If the connection is closed.

UnsupportedOperationException If the wire format in use does not support this operation.

ActiveMQException If any other error occurs during the attempt to destroy the destination.

6.17.3.16 virtual void activemq::core::ActiveMQConnection::destroyDestination (const commands::ActiveMQDestination * *destination*) [virtual]

Requests that the Broker removes the given Destination. Calling this method implies that the client is finished with the Destination and that no other messages will be sent or received for the given Destination. The Broker frees all resources it has associated with this Destination.

Parameters:

destination The Destination the Broker will be requested to remove.

Exceptions:

NullPointerException If the passed Destination is Null

IllegalStateException If the connection is closed.

UnsupportedOperationException If the wire format in use does not support this operation.

ActiveMQException If any other error occurs during the attempt to destroy the destination.

6.17.3.17 void activemq::core::ActiveMQConnection::disconnect (long long *lastDeliveredSequenceId*) [protected]

6.17.3.18 void activemq::core::ActiveMQConnection::ensureConnectionInfoSent ()

If its not been sent, then send the ConnectionInfo to the Broker.

6.17.3.19 virtual void activemq::core::ActiveMQConnection::fire (const exceptions::ActiveMQException & *ex*) [virtual]

Notify the exception listener.

Parameters:

ex the exception to fire

6.17.3.20 int activemq::core::ActiveMQConnection::getAuditDepth () const

Get the audit depth for Messages for consumers when using a fault tolerant **transport** (p. 72). The higher the value the more messages are checked for duplication, and the larger the performance impact of duplicate detection will be.

Returns:

the configured audit depth.

6.17.3.21 int activemq::core::ActiveMQConnection::getAuditMaximumProducerNumber () const

The number of Producers that will be audited.

Returns:

the configured number of producers to include in the audit.

6.17.3.22 const std::string& activemq::core::ActiveMQConnection::getBrokerURL () const

Gets the Broker URL that this factory will use when creating a new connection instance.

Returns:

brokerURL string

6.17.3.23 virtual std::string activemq::core::ActiveMQConnection::getClientID () const [virtual]

Get the Client Id for this session, the client Id is provider specific and is either assigned by the connection factory or set using the setClientID method.

Returns:

Client Id String for this **Connection** (p. 1083).

Exceptions:

CMSException *(p. **973**)* if the provider fails to return the client id or an internal error occurs.

Implements **cms::Connection** (p. 1085).

6.17.3.24 unsigned int activemq::core::ActiveMQConnection::getCloseTimeout () const

Gets the assigned close timeout for this Connector.

Returns:

the close timeout configured in the connection uri

6.17.3.25 int activemq::core::ActiveMQConnection::getCompressionLevel () const

Gets the currently configured Compression level for Message bodies.

Returns:

the int value of the current compression level.

6.17.3.26 const commands::ConnectionId& activemq::core::ActiveMQConnection::getConnectionId () const

Gets the ConnectionId for this Object, if the Connection is not open than this method throws an exception.

Exceptions:

ActiveMQException if an error occurs while performing this operation.

6.17.3.27 const commands::ConnectionInfo& activemq::core::ActiveMQConnection::getConnectionInfo () const

Gets the ConnectionInfo for this Object, if the Connection is not open than this method throws an exception.

Exceptions:

ActiveMQException if an error occurs while performing this operation.

6.17.3.28 long long activemq::core::ActiveMQConnection::getConsumerFailoverRedeliveryWaitPeriod () const

Gets the delay period for a consumer redelivery.

Returns:

configured time delay in milliseconds.

6.17.3.29 virtual cms::ExceptionListener* activemq::core::ActiveMQConnection::getExceptionListener () const [virtual]

Gets the registered Exception Listener for this connection.

Returns:

pointer to an exception listener or NULL

Implements **cms::Connection** (p. 1085).

6.17.3.30 decaf::util::concurrent::ExecutorService* activemq::core::ActiveMQConnection::getExecutor () const

Returns:

the ExecutorService used to run jobs for this Connection

6.17.3.31 decaf::lang::Exception* activemq::core::ActiveMQConnection::getFirstFailureError () const

Gets the pointer to the first exception that caused the Connection to become failed.

Returns:

pointer to an Exception instance or NULL if none is set.

6.17.3.32 virtual cms::MessageTransformer* activemq::core::ActiveMQConnection::getMessageTransformer () const [virtual]

Gets the currently configured **MessageTransformer** (p. 2206) for this **Connection** (p. 1083).

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::Connection** (p. 1086).

6.17.3.33 virtual const cms::ConnectionMetaData* activemq::core::ActiveMQConnection::getMetaData () const [inline, virtual]

Gets the metadata for this connection.

Returns:

the connection MetaData pointer (caller does not own it).

Exceptions:

CMSException *(*p. ***973****)* if the provider fails to get the connection metadata for this connection.

See also:

ConnectionMetaData (p. 1134)

Since:

2.0

Implements **cms::Connection** (p. 1086).

6.17.3.34 long long activemq::core::ActiveMQConnection::getNextLocalTransactionId ()

Get the Next Temporary Destination Id.

Returns:

the next id in the sequence.

6.17.3.35 virtual Pointer<commands::SessionId> activemq::core::ActiveMQConnection::getNextSessionId () [protected, virtual]

Returns:

the next available Session Id.

6.17.3.36 long long activemq::core::ActiveMQConnection::getNextTempDestinationId ()

Get the Next Temporary Destination Id.

Returns:

the next id in the sequence.

6.17.3.37 long long activemq::core::ActiveMQConnection::getOptimizeAcknowledgeTimeOut () const

Gets the time between optimized ack batches in milliseconds.

Returns:

time between optimized ack batches in Milliseconds.

6.17.3.38 long long activemq::core::ActiveMQConnection::getOptimizedAckScheduledAckInterval () const

Gets the configured time interval that is used to force all MessageConsumers that have optimizedAcknowledge enabled to send an ack for any outstanding Message Acks. By default this value is set to zero meaning that the consumers will not do any background Message acknowledgment.

Returns:

the scheduledOptimizedAckInterval

6.17.3.39 const std::string& activemq::core::ActiveMQConnection::getPassword () const

Gets the password that this factory will use when creating a new connection instance.

Returns:

password string, "" for default credentials

6.17.3.40 PrefetchPolicy* activemq::core::ActiveMQConnection::getPrefetchPolicy () const

Gets the pointer to the current **PrefetchPolicy** (p. 2382) that is in use by this ConnectionFactory.

Returns:

a pointer to this objects **PrefetchPolicy** (p. 2382).

6.17.3.41 unsigned int activemq::core::ActiveMQConnection::getProducerWindowSize () const

Gets the configured producer window size for Producers that are created from this connector. This only applies if there is no send timeout and the producer is able to send asynchronously.

Returns:

size in bytes of messages that this producer can produce before it must block and wait for ProducerAck messages to free resources.

6.17.3.42 const decaf::util::Properties& activemq::core::ActiveMQConnection::getProperties () const [protected]

6.17.3.43 RedeliveryPolicy* activemq::core::ActiveMQConnection::getRedeliveryPolicy () const

Gets the pointer to the current **RedeliveryPolicy** (p. 2527) that is in use by this ConnectionFactory.

Returns:

a pointer to this objects **RedeliveryPolicy** (p. 2527).

6.17.3.44 std::string activemq::core::ActiveMQConnection::getResourceManagerId () const

Returns the Id of the Resource Manager that this client will use should it be entered into an XA Transaction.

Returns:

a string containing the resource manager Id for XA Transactions.

6.17.3.45 Pointer<threads::Scheduler> activemq::core::ActiveMQConnection::getScheduler () const

Gets a reference to the Connection objects built in Scheduler instance.

Returns:

a reference to a Scheduler instance owned by this Connection.

6.17.3.46 unsigned int activemq::core::ActiveMQConnection::getSendTimeout () const

Gets the assigned send timeout for this Connector.

Returns:

the send timeout configured in the connection uri

6.17.3.47 transport::Transport& activemq::core::ActiveMQConnection::getTransport () const

Gets a reference to this object's Transport instance.

Returns:

a reference to the Transport that is in use by this Connection.

6.17.3.48 const std::string& activemq::core::ActiveMQConnection::getUsername () const

Gets the username that this factory will use when creating a new connection instance.

Returns:

username string, "" for default credentials

6.17.3.49 bool activemq::core::ActiveMQConnection::isAlwaysSyncSend () const

Gets if the Connection should always send things Synchronously.

Returns:

true if sends should always be Synchronous.

6.17.3.50 bool activemq::core::ActiveMQConnection::isCheckForDuplicates () const

Gets the value of the configured Duplicate Message detection feature. When enabled and a fault tolerant **transport** (p. 72) is used (think failover) then this feature will help to detect and filter duplicate messages that might otherwise be delivered to a consumer after a connection failure.

Disabling this can increase performance since no Message auditing will occur.

Returns:

the checkForDuplicates value currently set.

6.17.3.51 bool activemq::core::ActiveMQConnection::isClosed () const [inline]

Checks if this connection has been closed.

Returns:

true if the connection is closed

6.17.3.52 bool activemq::core::ActiveMQConnection::isDeleted (Pointer< commands::ActiveMQTempDestination > *destination*) const

Determines whether the supplied Temporary Destination has already been deleted from the Broker. If watchTopicAdvisories is disabled this method will always return false.

Returns:

true if the temporary destination was deleted already.

6.17.3.53 bool activemq::core::ActiveMQConnection::isDispatchAsync () const

Returns:

The value of the dispatch asynchronously option sent to the broker.

6.17.3.54 bool activemq::core::ActiveMQConnection::isDuplicate (Dispatcher * *dispatcher*, Pointer< commands::Message > *message*)

Allows Consumers to check if an incoming Message is a Duplicate.

Parameters:

dispatcher The **Dispatcher** (p. 1400) that is checking the Message for Duplication.

message The Message that should be checked.

Returns:

true if the Message was seen before.

6.17.3.55 bool activemq::core::ActiveMQConnection::isExclusiveConsumer () const

Should all created consumers be exclusive.

Returns:

true if consumer will be created with the exclusive flag set.

6.17.3.56 bool activemq::core::ActiveMQConnection::isMessagePrioritySupported () const

Returns:

true if the Connections that this factory creates should support the message based priority settings.

6.17.3.57 bool activemq::core::ActiveMQConnection::isNonBlockingRedelivery () const

Returns true if non-blocking redelivery of Messages is configured for Consumers that are rolled back or recovered.

Returns:

true if non-blocking redelivery is enabled.

6.17.3.58 bool activemq::core::ActiveMQConnection::isOptimizeAcknowledge () const

Returns:

true if optimizeAcknowledge is enabled.

6.17.3.59 bool activemq::core::ActiveMQConnection::isSendAcksAsync () const

Returns whether Message acknowledgments are sent asynchronously meaning no response is required from the broker before the ack completes.

Returns:

the sendAcksAsync configured value.

6.17.3.60 bool activemq::core::ActiveMQConnection::isStarted () const [inline]

Check if this connection has been started.

Returns:

true if the start method has been called.

6.17.3.61 bool activemq::core::ActiveMQConnection::isTransactedIndividualAck () const

when true, submit individual transacted acks immediately rather than with transaction completion. This allows the acks to represent delivery status which can be persisted on rollback Used in conjunction with KahaDB set to Rewrite On Redelivery.

Returns:

true if this option is enabled.

6.17.3.62 bool activemq::core::ActiveMQConnection::isTransportFailed () const [inline]

Checks if the Connection's Transport has failed.

Returns:

true if the Connection's Transport has failed.

6.17.3.63 bool activemq::core::ActiveMQConnection::isUseAsyncSend () const

Gets if the useAsyncSend option is set.

Returns:

true if on false if not.

6.17.3.64 bool activemq::core::ActiveMQConnection::isUseCompression () const

Gets if the Connection is configured for Message body compression.

Returns:

if the Message body will be Compressed or not.

6.17.3.65 bool activemq::core::ActiveMQConnection::isUseRetroactiveConsumer () const

Should all created consumers be retroactive.

Returns:

true if consumer will be created with the retroactive flag set.

6.17.3.66 bool activemq::core::ActiveMQConnection::isWatchTopicAdvisories () const

Is the Connection configured to watch for advisory messages to maintain **state** (p. 70) of temporary destination create and destroy.

Returns:

true if the Connection will listen for temporary topic advisory messages.

6.17.3.67 void activemq::core::ActiveMQConnection::onAsyncException (const decaf::lang::Exception & *ex*)

Event handler for dealing with async **exceptions** (p. 67).

Parameters:

ex The exception that caused the error condition.

6.17.3.68 void activemq::core::ActiveMQConnection::onClientInternalException (const decaf::lang::Exception & *ex*)

Handles async client internal **exceptions** (p. 67) which don't usually affect the connection itself. These are reported but do not shutdown the Connection.

Parameters:

error the exception that the problem

6.17.3.69 virtual void activemq::core::ActiveMQConnection::onCommand (const Pointer< commands::Command > *command*) [virtual]

Event handler for the receipt of a non-response command from the **transport** (p. 72).

Parameters:

command the received command object.

Implements **activemq::transport::TransportListener** (p. 3130).

6.17.3.70 void activemq::core::ActiveMQConnection::onConnectionControl (Pointer< commands::Command > *command*) [protected]

6.17.3.71 void activemq::core::ActiveMQConnection::onConsumerControl (Pointer< commands::Command > *command*) [protected]

6.17.3.72 void activemq::core::ActiveMQConnection::onControlCommand (Pointer< commands::Command > *command*) [protected]

6.17.3.73 void activemq::core::ActiveMQConnection::oneway (Pointer< commands::Command > *command*)

Sends a message without request that the broker send a response to indicate that it was received.

Parameters:

command The Command object to send to the Broker.

Exceptions:

ActiveMQException if not currently connected, or if the operation fails for any reason.

6.17.3.74 virtual void activemq::core::ActiveMQConnection::onException (const decaf::lang::Exception & *ex*) [virtual]

Event handler for an exception from a command **transport** (p. 72).

Parameters:

ex The exception.

Implements **activemq::transport::TransportListener** (p. 3131).

6.17.3.75 virtual void activemq::core::ActiveMQConnection::removeDispatcher (const Pointer< commands::ConsumerId > & *consumer*) [virtual]

Removes the dispatcher for a consumer.

Parameters:

consumer - The consumer for which to remove the dispatcher.

Exceptions:

CMSException if an error occurs while removing performing the operation.

6.17.3.76 virtual void activemq::core::ActiveMQConnection::removeProducer (const Pointer< commands::ProducerId > & *producerId*) [virtual]

Removes an active Producer to the Set of known producers.

Parameters:

producerId - The ProducerId to remove from the the known set.

Exceptions:

CMSException if an error occurs while removing performing the operation.

6.17.3.77 virtual void activemq::core::ActiveMQConnection::removeSession (Pointer< activemq::core::kernels::ActiveMQSessionKernel > *session*) [virtual]

Removes the session resources for the given session instance.

Parameters:

session The session to be unregistered from this connection.

Exceptions:

CMSException if an error occurs while removing performing the operation.

6.17.3.78 void activemq::core::ActiveMQConnection::removeTempDestination (Pointer< commands::ActiveMQTempDestination > *destination*)

Removes the given Temporary Destination to this Connections collection of known Temporary Destinations.

Parameters:

destination The temporary destination that this connection should stop tracking.

6.17.3.79 void activemq::core::ActiveMQConnection::removeTransportListener (transport::TransportListener * *transportListener*)

Removes a registered TransportListener from the Connection's set of Transport listeners, this listener will no longer receive any Transport related events. The caller is responsible for freeing the listener in all cases.

Parameters:

transportListener The pointer to the TransportListener to remove from the set of listeners.

6.17.3.80 void activemq::core::ActiveMQConnection::rollbackDuplicate (Dispatcher * *dispatcher*, Pointer< commands::Message > *message*)

Mark message as received.

Parameters:

dispatcher The **Dispatcher** (p. 1400) instance that has received the Message.

message The Message that has been received.

6.17.3.81 virtual void activemq::core::ActiveMQConnection::sendPullRequest (const commands::ConsumerInfo * *consumer*, long long *timeout*) [virtual]

If supported sends a message pull request to the service provider asking for the delivery of a new message. This is used in the case where the service provider has been configured with a zero prefetch or is only capable of delivering messages on a pull basis.

Parameters:

consumer - the ConsumerInfo for the requesting Consumer.

timeout - the time that the client is willing to wait.

Exceptions:

ActiveMQException if an error occurs while removing performing the operation.

6.17.3.82 void activemq::core::ActiveMQConnection::setAlwaysSyncSend (bool *value*)

Sets if the Connection should always send things Synchronously.

Parameters:

value true if sends should always be Synchronous.

6.17.3.83 void activemq::core::ActiveMQConnection::setAuditDepth (int *auditDepth*)

Set the audit depth for Messages for consumers when using a fault tolerant **transport** (p. 72). The higher the value the more messages are checked for duplication, and the larger the performance impact of duplicate detection will be.

Parameters:

auditDepth The configured audit depth.

6.17.3.84 void activemq::core::ActiveMQConnection::setAuditMaximumProducerNumber (int *auditMaximumProducerNumber*)

The number of Producers that will be audited.

Parameters:

auditMaximumProducerNumber The configured number of producers to include in the audit.

6.17.3.85 void activemq::core::ActiveMQConnection::setBrokerURL (const std::string & *brokerURL*)

Sets the Broker URL that should be used when creating a new connection instance.

Parameters:

brokerURL string

6.17.3.86 void activemq::core::ActiveMQConnection::setCheckForDuplicates (bool *checkForDuplicates*)

Gets the value of the configured Duplicate Message detection feature. When enabled and a fault tolerant **transport** (p. 72) is used (think failover) then this feature will help to detect and filter duplicate messages that might otherwise be delivered to a consumer after a connection failure.

Disabling this can increase performance since no Message auditing will occur.

Parameters:

checkForDuplicates The checkForDuplicates value to be configured.

6.17.3.87 virtual void activemq::core::ActiveMQConnection::setClientID (const std::string & *clientID*) [virtual]

Sets the client identifier for this connection.

The preferred way to assign a CMS client's client identifier is for it to be configured in a client-specific **ConnectionFactory** (p. 1108) object and transparently assigned to the **Connection** (p. 1083) object it creates.

If a client sets the client identifier explicitly, it must do so immediately after it creates the connection and before any other action on the connection is taken. After this point, setting the client identifier is a programming error that should throw an **IllegalStateException** (p. 1645).

Parameters:

clientID The unique client identifier to assign to the **Connection** (p. 1083).

Exceptions:

CMSException *(p. 973)* if the provider fails to set the client id due to some internal error.

InvalidClientIDException if the id given is somehow invalid or is a duplicate.

IllegalStateException *(p. 1645)* if the client tries to set the id after a **Connection** (p. 1083) method has been called.

Implements **cms::Connection** (p. 1086).

6.17.3.88 void activemq::core::ActiveMQConnection::setCloseTimeout (unsigned int *timeout*)

Sets the close timeout to use when sending the disconnect request.

Parameters:

timeout - The time to wait for a close message.

6.17.3.89 void activemq::core::ActiveMQConnection::setCompressionLevel (int *value*)

Sets the Compression level used when Message body compression is enabled, a value of -1 causes the Compression Library to use the default setting which is a balance of speed and compression. The range of compression levels is [0..9] where 0 indicates best speed and 9 indicates best compression.

Parameters:

value A signed int value that controls the compression level.

6.17.3.90 void activemq::core::ActiveMQConnection::setConsumerFailoverRedeliveryWaitPeriod (long long *value*)

Sets the delay period for a consumer redelivery.

Parameters:

value The configured time delay in milliseconds.

6.17.3.91 void activemq::core::ActiveMQConnection::setDefaultClientId (const std::string & *clientId*)

Sets the Client Id.

Parameters:

clientId - The new clientId value.

6.17.3.92 void activemq::core::ActiveMQConnection::setDispatchAsync (bool *value*)

Should messages be dispatched synchronously or asynchronously from the producer thread for non-durable topics in the broker? For fast consumers set this to false. For slow consumers set it to true so that dispatching will not block fast consumers. .

Parameters:

value The value of the dispatch asynchronously option sent to the broker.

6.17.3.93 virtual void activemq::core::ActiveMQConnection::setExceptionListener (cms::ExceptionListener * *listener*) [virtual]

Sets the registered Exception Listener for this connection.

Parameters:

listener pointer to and `ExceptionListener` (p. 1452)

Implements **cms::Connection** (p. 1087).

6.17.3.94 void activemq::core::ActiveMQConnection::setExclusiveConsumer (bool *exclusiveConsumer*)

Enables or disables whether or not queue consumers should be exclusive or not for example to preserve ordering when not using Message Groups.

Parameters:

exclusiveConsumer The value of this configuration option.

6.17.3.95 void activemq::core::ActiveMQConnection::setFirstFailureError (decaf::lang::Exception * *error*)

Sets the pointer to the first exception that caused the Connection to become failed.

Parameters:

pointer to the exception instance that is to be the first failure error if the first error is already set this value is deleted.

6.17.3.96 void activemq::core::ActiveMQConnection::setMessagePrioritySupported (bool *value*)

Set whether or not this factory should create Connection objects with the Message priority support function enabled.

Parameters:

value Boolean indicating if Message priority should be enabled.

6.17.3.97 virtual void activemq::core::ActiveMQConnection::setMessageTransformer (cms::MessageTransformer * *transformer*) [virtual]

Set an **MessageTransformer** (p. 2206) instance that is passed on to all **Session** (p. 2665) objects created from this **Connection** (p. 1083).

The CMS **code** (p. 999) never takes ownership of the **MessageTransformer** (p. 2206) pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the **MessageTransformer** (p. 2206) has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to set on all newly created **Session** (p. 2665) objects.

Implements **cms::Connection** (p. 1087).

6.17.3.98 void activemq::core::ActiveMQConnection::setNonBlockingRedelivery (bool *nonBlockingRedelivery*)

When true a MessageConsumer will not stop Message delivery before re-delivering Messages from a rolled back transaction. This implies that message order will not be preserved and also will result in the TransactedIndividualAck option to be enabled.

Parameters:

nonBlockingRedelivery The value to configure for non-blocking redelivery.

6.17.3.99 void activemq::core::ActiveMQConnection::setOptimizeAcknowledge (bool *optimizeAcknowledge*)

Sets if Consumers are configured to use Optimized Acknowledge by default.

Parameters:

optimizeAcknowledge The optimizeAcknowledge mode to set.

6.17.3.100 void activemq::core::ActiveMQConnection::setOptimizeAcknowledgeTimeOut (long long *optimizeAcknowledgeTimeOut*)

The max time in milliseconds between optimized ack batches.

Parameters:

optimizeAcknowledgeTimeOut The time in milliseconds for optimized ack batches.

6.17.3.101 void activemq::core::ActiveMQConnection::setOptimizedAckScheduledAckInterval (long long *optimizedAckScheduledAckInterval*)

Sets the amount of time between scheduled sends of any outstanding Message Acks for consumers that have been configured with optimizeAcknowledge enabled. Time is given in Milliseconds.

Parameters:

optimizedAckScheduledAckInterval The scheduledOptimizedAckInterval to use for new Consumers.

6.17.3.102 void activemq::core::ActiveMQConnection::setPassword (const std::string & *password*)

Sets the password that should be used when creating a new connection.

Parameters:

password string

6.17.3.103 void activemq::core::ActiveMQConnection::setPrefetchPolicy (PrefetchPolicy * *policy*)

Sets the **PrefetchPolicy** (p. 2382) instance that this factory should use when it creates new Connection instances. The **PrefetchPolicy** (p. 2382) passed becomes the property of the factory and will be deleted when the factory is destroyed.

Parameters:

policy The new **PrefetchPolicy** (p. 2382) that the ConnectionFactory should clone for Connections.

6.17.3.104 void activemq::core::ActiveMQConnection::setProducerWindowSize (unsigned int *windowSize*)

Sets the size in Bytes of messages that a producer can send before it is blocked to await a ProducerAck from the broker that frees enough memory to allow another message to be sent.

Parameters:

windowSize - The size in bytes of the Producers memory window.

6.17.3.105 void activemq::core::ActiveMQConnection::setRedeliveryPolicy (RedeliveryPolicy * *policy*)

Sets the **RedeliveryPolicy** (p. 2527) instance that this factory should use when it creates new Connection instances. The **RedeliveryPolicy** (p. 2527) passed becomes the property of the factory and will be deleted when the factory is destroyed.

Parameters:

policy The new **RedeliveryPolicy** (p. 2527) that the ConnectionFactory should clone for Connections.

6.17.3.106 void activemq::core::ActiveMQConnection::setSendAcksAsync (bool *sendAcksAsync*)

Sets whether Message acknowledgments are sent asynchronously meaning no response is required from the broker before the ack completes.

Parameters:

sendAcksAsync The sendAcksAsync configuration value to set.

6.17.3.107 void activemq::core::ActiveMQConnection::setSendTimeout (unsigned int *timeout*)

Sets the send timeout to use when sending Message objects, this will cause all messages to be sent using a Synchronous request is non-zero.

Parameters:

timeout - The time to wait for a response.

6.17.3.108 void activemq::core::ActiveMQConnection::setTransactedIndividualAck (bool *transactedIndividualAck*)

when true, submit individual transacted acks immediately rather than with transaction completion. This allows the acks to represent delivery status which can be persisted on rollback Used in conjunction with KahaDB set to Rewrite On Redelivery.

Parameters:

transactedIndividualAck The value to set.

6.17.3.109 void activemq::core::ActiveMQConnection::setTransportInterruptionProcessingComplete ()

Indicates that a Connection resource that is processing the transportInterrupted event has completed.

6.17.3.110 void activemq::core::ActiveMQConnection::setUseAsyncSend (bool *value*)

Sets the useAsyncSend option.

Parameters:

value - true to activate, false to disable.

6.17.3.111 void activemq::core::ActiveMQConnection::setUseCompression (bool *value*)

Sets whether Message body compression is enabled.

Parameters:

value Boolean indicating if Message body compression is enabled.

6.17.3.112 void activemq::core::ActiveMQConnection::setUseRetroactiveConsumer (bool *useRetroactiveConsumer*)

Sets whether or not retroactive consumers are enabled. Retroactive consumers allow non-durable topic subscribers to receive old messages that were published before the non-durable subscriber started.

Parameters:

useRetroactiveConsumer The value of this configuration option.

6.17.3.113 void activemq::core::ActiveMQConnection::setUsername (const std::string & *username*)

Sets the username that should be used when creating a new connection.

Parameters:

username string

6.17.3.114 void activemq::core::ActiveMQConnection::setWatchTopicAdvisories (bool *value*)

Sets whether this Connection is listening for advisory messages regarding temporary destination creation and deletion.

Parameters:

value Boolean indicating if advisory message monitoring should be enabled.

6.17.3.115 void activemq::core::ActiveMQConnection::signalInterruptionProcessingComplete () [protected]

6.17.3.116 virtual void activemq::core::ActiveMQConnection::start () [virtual]

Starts the service.

Exceptions:

CMSException *(*p. ***973****)* if an internal error occurs while starting.

Implements **cms::Startable** (p. 2836).

6.17.3.117 virtual void activemq::core::ActiveMQConnection::stop () [virtual]

Stops this service.

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs while stopping the Service.

Implements **cms::Stoppable** (p. 2903).

6.17.3.118 Pointer<commands::Response> activemq::core::ActiveMQConnection::syncRequest (Pointer< commands::Command > *command*, unsigned int *timeout* = 0)

Sends a synchronous request and returns the response from the broker. This method converts any error responses it receives into an exception.

Parameters:

command The Command object that is to be sent to the broker.

timeout The time in milliseconds to wait for a response, default is zero or infinite.

Returns:

a Pointer instance to the Response object sent from the Broker.

Exceptions:

BrokerException if the response from the broker is of type ExceptionResponse.

ActiveMQException if any other error occurs while sending the Command.

6.17.3.119 virtual void activemq::core::ActiveMQConnection::transportInterrupted () [virtual]

The **transport** (p. 72) has suffered an interruption from which it hopes to recover.

Implements **activemq::transport::TransportListener** (p. 3131).

6.17.3.120 virtual void activemq::core::ActiveMQConnection::transportResumed () [virtual]

The **transport** (p. 72) has resumed after an interruption.

Implements **activemq::transport::TransportListener** (p. 3131).

6.17.3.121 void activemq::core::ActiveMQConnection::waitForTransportInterruptionProcessingToComplete () [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQConnection.h**

6.18 activemq::core::ActiveMQConnectionFactory Class Reference

`#include <src/main/activemq/core/ActiveMQConnectionFactory.h>`Inheritance diagram for activemq::core::ActiveMQConnectionFactory:

Public Member Functions

- **ActiveMQConnectionFactory** ()
- **ActiveMQConnectionFactory** (const std::string &uri, const std::string &username="", const std::string &password="")

  Constructor.

- **ActiveMQConnectionFactory** (const **decaf::net::URI** &uri, const std::string &username="", const std::string &password="")

  Constructor.

- virtual ~**ActiveMQConnectionFactory** ()
- virtual **cms::Connection** * **createConnection** ()

  Creates a connection with the default user identity.

- virtual **cms::Connection** * **createConnection** (const std::string &username, const std::string &password)

  Creates a connection with the specified user identity.

- virtual **cms::Connection** * **createConnection** (const std::string &username, const std::string &password, const std::string &clientId)

  Creates a connection with the specified user identity.

- void **setUsername** (const std::string &username)

  Sets the username that should be used when creating a new connection.

- const std::string & **getUsername** () const

  Gets the username that this factory will use when creating a new connection instance.

- void **setPassword** (const std::string &password)

  Sets the password that should be used when creating a new connection.

- const std::string & **getPassword** () const

  Gets the password that this factory will use when creating a new connection instance.

- std::string **getClientId** () const

  Gets the Configured Client Id.

- void **setClientId** (const std::string &clientId)

  Sets the Client Id.

- void **setBrokerURI** (const std::string &uri)

Sets the Broker URI that should be used when creating a new connection instance.

- void **setBrokerURI** (const **decaf::net::URI** &uri)

  Sets the Broker URI that should be used when creating a new connection instance.

- const **decaf::net::URI** & **getBrokerURI** () const

  Gets the Broker URI that this factory will use when creating a new connection instance.

- virtual void **setExceptionListener** (**cms::ExceptionListener** *listener)

  Set an CMS ExceptionListener that will be set on eat connection once it has been created.

- virtual **cms::ExceptionListener** * **getExceptionListener** () const

  Returns the currently set ExceptionListener that will be set on any new Connection instance that is created by this factory.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

  Set an MessageTransformer instance that is passed on to all Connection objects created from this ConnectionFactory.

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  Gets the currently configured MessageTransformer for this ConnectionFactory.

- void **setPrefetchPolicy** (**PrefetchPolicy** *policy)

  *Sets the **PrefetchPolicy** (p. 2382) instance that this factory should use when it creates new Connection instances.*

- **PrefetchPolicy** * **getPrefetchPolicy** () const

  *Gets the pointer to the current **PrefetchPolicy** (p. 2382) that is in use by this ConnectionFactory.*

- void **setRedeliveryPolicy** (**RedeliveryPolicy** *policy)

  *Sets the **RedeliveryPolicy** (p. 2527) instance that this factory should use when it creates new Connection instances.*

- **RedeliveryPolicy** * **getRedeliveryPolicy** () const

  *Gets the pointer to the current **RedeliveryPolicy** (p. 2527) that is in use by this ConnectionFactory.*

- bool **isDispatchAsync** () const
- void **setDispatchAsync** (bool value)

  Should messages be dispatched synchronously or asynchronously from the producer thread for non-durable topics in the broker? For fast consumers set this to false.

- bool **isAlwaysSyncSend** () const

  Gets if the Connection should always send things Synchronously.

- void **setAlwaysSyncSend** (bool value)

  Sets if the Connection should always send things Synchronously.

- bool **isUseAsyncSend** () const

  Gets if the useAsyncSend option is set.

- void **setUseAsyncSend** (bool value)

  Sets the useAsyncSend option.

- bool **isSendAcksAsync** () const

  Returns whether Message acknowledgments are sent asynchronously meaning no response is required from the broker before the ack completes.

- void **setSendAcksAsync** (bool sendAcksAsync)

  Sets whether Message acknowledgments are sent asynchronously meaning no response is required from the broker before the ack completes.

- bool **isUseCompression** () const

  Gets if the Connection is configured for Message body compression.

- void **setUseCompression** (bool value)

  Sets whether Message body compression is enabled.

- void **setCompressionLevel** (int value)

  Sets the Compression level used when Message body compression is enabled, a value of -1 causes the Compression Library to use the default setting which is a balance of speed and compression.

- int **getCompressionLevel** () const

  Gets the currently configured Compression level for Message bodies.

- unsigned int **getSendTimeout** () const

  Gets the assigned send timeout for this Connector.

- void **setSendTimeout** (unsigned int timeout)

  Sets the send timeout to use when sending Message objects, this will cause all messages to be sent using a Synchronous request is non-zero.

- unsigned int **getCloseTimeout** () const

  Gets the assigned close timeout for this Connector.

- void **setCloseTimeout** (unsigned int timeout)

  Sets the close timeout to use when sending the disconnect request.

- unsigned int **getProducerWindowSize** () const

  Gets the configured producer window size for Producers that are created from this connector.

- void **setProducerWindowSize** (unsigned int windowSize)

  Sets the size in Bytes of messages that a producer can send before it is blocked to await a ProducerAck from the broker that frees enough memory to allow another message to be sent.

- bool **isMessagePrioritySupported** () const
- void **setMessagePrioritySupported** (bool value)

  Set whether or not this factory should create Connection objects with the Message priority support function enabled.

- bool **isUseRetroactiveConsumer** () const

Should all created consumers be retroactive.

- void **setUseRetroactiveConsumer** (bool useRetroactiveConsumer)

  Sets whether or not retroactive consumers are enabled.

- bool **isExclusiveConsumer** () const

  Should all created consumers be exclusive.

- void **setExclusiveConsumer** (bool exclusiveConsumer)

  Enables or disables whether or not queue consumers should be exclusive or not for example to preserve ordering when not using Message Groups.

- bool **isWatchTopicAdvisories** () const

  Is the Connection created by this factory configured to watch for advisory messages that inform the Connection about temporary destination create / destroy.

- void **setWatchTopicAdvisories** (bool value)

  Sets whether Connection's created by this factory will listen for advisory messages regarding temporary destination creation and deletion.

- int **getAuditDepth** () const

  *Get the audit depth for Messages for consumers when using a fault tolerant **transport** (p. 72).*

- void **setAuditDepth** (int auditDepth)

  *Set the audit depth for Messages for consumers when using a fault tolerant **transport** (p. 72).*

- int **getAuditMaximumProducerNumber** () const

  The number of Producers that will be audited.

- void **setAuditMaximumProducerNumber** (int auditMaximumProducerNumber)

  The number of Producers that will be audited.

- bool **isCheckForDuplicates** () const

  Gets the value of the configured Duplicate Message detection feature.

- void **setCheckForDuplicates** (bool checkForDuplicates)

  Gets the value of the configured Duplicate Message detection feature.

- bool **isTransactedIndividualAck** () const

  when true, submit individual transacted acks immediately rather than with transaction completion.

- void **setTransactedIndividualAck** (bool transactedIndividualAck)

  when true, submit individual transacted acks immediately rather than with transaction completion.

- bool **isNonBlockingRedelivery** () const

  Returns true if non-blocking redelivery of Messages is configured for Consumers that are rolled back or recovered.

- void **setNonBlockingRedelivery** (bool nonBlockingRedelivery)

When true a MessageConsumer will not stop Message delivery before re-delivering Messages from a rolled back transaction.

- long long **getConsumerFailoverRedeliveryWaitPeriod** () const

  Gets the delay period for a consumer redelivery.

- void **setConsumerFailoverRedeliveryWaitPeriod** (long long value)

  Sets the delay period for a consumer redelivery.

- bool **isOptimizeAcknowledge** () const
- void **setOptimizeAcknowledge** (bool optimizeAcknowledge)

  Sets if Consumers are configured to use Optimized Acknowledge by default.

- long long **getOptimizeAcknowledgeTimeOut** () const

  Gets the time between optimized ack batches in milliseconds.

- void **setOptimizeAcknowledgeTimeOut** (long long optimizeAcknowledgeTimeOut)

  The max time in milliseconds between optimized ack batches.

- long long **getOptimizedAckScheduledAckInterval** () const

  Gets the configured time interval that is used to force all MessageConsumers that have optimizedAcknowledge enabled to send an ack for any outstanding Message Acks.

- void **setOptimizedAckScheduledAckInterval** (long long optimizedAckScheduledAckInterval)

  Sets the amount of time between scheduled sends of any outstanding Message Acks for consumers that have been configured with optimizeAcknowledge enabled.

Static Public Member Functions

- static **cms::Connection** * **createConnection** (const std::string &uri, const std::string &username, const std::string &password, const std::string &clientId="")

  Creates a connection with the specified user identity.

Static Public Attributes

- static const std::string **DEFAULT_URI**

Protected Member Functions

- virtual **ActiveMQConnection** * **createActiveMQConnection** (const **Pointer**< **transport::Transport** > &transport, const **Pointer**< **decaf::util::Properties** > &properties)

  *Create a new **ActiveMQConnection** (p. 232) instnace using the provided Transport and Properties.*

6.18.1 Constructor & Destructor Documentation

6.18.1.1 activemq::core::ActiveMQConnectionFactory::ActiveMQConnectionFactory ()

6.18.1.2 activemq::core::ActiveMQConnectionFactory::ActiveMQConnectionFactory (const std::string & *uri*, const std::string & *username* = "", const std::string & *password* = "")

Constructor.

Parameters:

uri The URI of the Broker we are connecting to.

username The user name to authenticate with this connection.

password The password to authenticate with this connection.

6.18.1.3 activemq::core::ActiveMQConnectionFactory::ActiveMQConnectionFactory (const decaf::net::URI & *uri*, const std::string & *username* = "", const std::string & *password* = "")

Constructor.

Parameters:

uri The URI of the Broker we are connecting to.

username The user name to authenticate with this connection.

password The password to authenticate with this connection.

6.18.1.4 virtual activemq::core::ActiveMQConnectionFactory::~ActiveMQConnectionFactory () [virtual]

6.18.2 Member Function Documentation

6.18.2.1 virtual ActiveMQConnection* activemq::core::ActiveMQConnectionFactory::createActiveMQConnection (const Pointer< transport::Transport > & *transport*, const Pointer< decaf::util::Properties > & *properties*) [protected, virtual]

Create a new **ActiveMQConnection** (p. 232) instnace using the provided Transport and Properties. Subclasses can override this to control the actual type of **ActiveMQConnection** (p. 232) that is created.

Parameters:

transport *(p. 72)* The Transport that the Connection should use to communicate with the Broker.

properties The Properties that are assigned to the new Connection instance.

Returns:

a new **ActiveMQConnection** (p. 232) pointer instance.

Reimplemented in **activemq::core::ActiveMQXAConnectionFactory** (p. 540).

6.18.2.2 static cms::Connection* activemq::core::ActiveMQConnectionFactory::createConnection (const std::string & *uri*, const std::string & *username*, const std::string & *password*, const std::string & *clientId* = "") [static]

Creates a connection with the specified user identity. The connection is created in stopped mode. No messages will be delivered until the Connection.start method is explicitly called.

Parameters:

uri The URI of the Broker we are connecting to.

username The name of the user to authenticate with.

password The password for the user to authenticate with.

clientId The unique client id to assign to connection, defaults to "".

Exceptions:

CMSException.

6.18.2.3 virtual cms::Connection* activemq::core::ActiveMQConnectionFactory::createConnection (const std::string & *username*, const std::string & *password*, const std::string & *clientId*) [virtual]

Creates a connection with the specified user identity. The connection is created in stopped mode. No messages will be delivered until the Connection.start method is explicitly called. The username and password values passed here do not change the defaults, subsequent calls to the parameterless createConnection will continue to use the default values that were set in the Constructor.

Parameters:

username The user name to authenticate with this connection.

password The password to authenticate with this connection.

clientId The client Id to assign to connection if "" then a random client Id is created for this connection.

Returns:

a Connection Pointer

Exceptions:

CMSSecurityException if the user credentials are invalid.

CMSException if an error occurs.

Implements **cms::ConnectionFactory** (p. 1109).

6.18.2.4 virtual cms::Connection* activemq::core::ActiveMQConnectionFactory::createConnection (const std::string & *username*, const std::string & *password*) [virtual]

Creates a connection with the specified user identity. The connection is created in stopped mode. No messages will be delivered until the Connection.start method is explicitly called. The user name

and password values passed here do not change the defaults, subsequent calls to the parameterless createConnection will continue to use the default values that were set in the Constructor.

Parameters:

username The user name to authenticate with this connection.

password The password to authenticate with this connection.

Returns:

a Connection Pointer

Exceptions:

CMSSecurityException if the user credentials are invalid.

CMSException if an error occurs.

Implements **cms::ConnectionFactory** (p. 1110).

6.18.2.5 virtual cms::Connection* activemq::core::ActiveMQConnectionFactory::createConnection () [virtual]

Creates a connection with the default user identity. The connection is created in stopped mode. No messages will be delivered until the Connection.start method is explicitly called.

Returns:

a Connection Pointer

Exceptions:

CMSException if an error occurs.

Implements **cms::ConnectionFactory** (p. 1110).

6.18.2.6 int activemq::core::ActiveMQConnectionFactory::getAuditDepth () const

Get the audit depth for Messages for consumers when using a fault tolerant **transport** (p. 72). The higher the value the more messages are checked for duplication, and the larger the performance impact of duplicate detection will be.

Returns:

the configured audit depth.

6.18.2.7 int activemq::core::ActiveMQConnectionFactory::getAuditMaximumProducerNumber () const

The number of Producers that will be audited.

Returns:

the configured number of producers to include in the audit.

6.18.2.8 const decaf::net::URI& activemq::core::ActiveMQConnectionFactory::getBrokerURI () const

Gets the Broker URI that this factory will use when creating a new connection instance.

Returns:

brokerURI string

6.18.2.9 std::string activemq::core::ActiveMQConnectionFactory::getClientId () const

Gets the Configured Client Id.

Returns:

the clientId.

6.18.2.10 unsigned int activemq::core::ActiveMQConnectionFactory::getCloseTimeout () const

Gets the assigned close timeout for this Connector.

Returns:

the close timeout configured in the connection uri

6.18.2.11 int activemq::core::ActiveMQConnectionFactory::getCompressionLevel () const

Gets the currently configured Compression level for Message bodies.

Returns:

the int value of the current compression level.

6.18.2.12 long long activemq::core::ActiveMQConnectionFactory::getConsumerFailoverRedeliveryWaitPeriod () const

Gets the delay period for a consumer redelivery.

Returns:

configured time delay in milliseconds.

6.18.2.13 virtual cms::ExceptionListener* activemq::core::ActiveMQConnectionFactory::getExceptionListener () const [virtual]

Returns the currently set ExceptionListener that will be set on any new Connection instance that is created by this factory.

Returns:

a pointer to a CMS ExceptionListener instance or NULL if not set.

Implements **cms::ConnectionFactory** (p. 1111).

6.18.2.14 virtual cms::MessageTransformer* activemq::core::ActiveMQConnectionFactory::getMessageTransformer () const [virtual]

Gets the currently configured MessageTransformer for this ConnectionFactory.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::ConnectionFactory** (p. 1111).

6.18.2.15 long long activemq::core::ActiveMQConnectionFactory::getOptimizeAcknowledgeTimeOut () const

Gets the time between optimized ack batches in milliseconds.

Returns:

time between optimized ack batches in Milliseconds.

6.18.2.16 long long activemq::core::ActiveMQConnectionFactory::getOptimizedAckScheduledAckInterval () const

Gets the configured time interval that is used to force all MessageConsumers that have optimizedAcknowledge enabled to send an ack for any outstanding Message Acks. By default this value is set to zero meaning that the consumers will not do any background Message acknowledgment.

Returns:

the scheduledOptimizedAckInterval

6.18.2.17 const std::string& activemq::core::ActiveMQConnectionFactory::getPassword () const

Gets the password that this factory will use when creating a new connection instance.

Returns:

password string, "" for default credentials

6.18.2.18 PrefetchPolicy* activemq::core::ActiveMQConnectionFactory::getPrefetchPolicy () const

Gets the pointer to the current **PrefetchPolicy** (p. 2382) that is in use by this ConnectionFactory.

Returns:

a pointer to this objects **PrefetchPolicy** (p. 2382).

6.18.2.19 unsigned int activemq::core::ActiveMQConnectionFactory::getProducerWindowSize () const

Gets the configured producer window size for Producers that are created from this connector. This only applies if there is no send timeout and the producer is able to send asynchronously.

Returns:

size in bytes of messages that this producer can produce before it must block and wait for ProducerAck messages to free resources.

6.18.2.20 RedeliveryPolicy* activemq::core::ActiveMQConnectionFactory::getRedeliveryPolicy () const

Gets the pointer to the current **RedeliveryPolicy** (p. 2527) that is in use by this ConnectionFactory.

Returns:

a pointer to this objects **RedeliveryPolicy** (p. 2527).

6.18.2.21 unsigned int activemq::core::ActiveMQConnectionFactory::getSendTimeout () const

Gets the assigned send timeout for this Connector.

Returns:

the send timeout configured in the connection uri

6.18.2.22 const std::string& activemq::core::ActiveMQConnectionFactory::getUsername () const

Gets the username that this factory will use when creating a new connection instance.

Returns:

username string, "" for default credentials

6.18.2.23 bool activemq::core::ActiveMQConnectionFactory::isAlwaysSyncSend () const

Gets if the Connection should always send things Synchronously.

Returns:

true if sends should always be Synchronous.

6.18.2.24 bool activemq::core::ActiveMQConnectionFactory::isCheckForDuplicates () const

Gets the value of the configured Duplicate Message detection feature. When enabled and a fault tolerant **transport** (p. 72) is used (think failover) then this feature will help to detect and filter duplicate messages that might otherwise be delivered to a consumer after a connection failure.

Disabling this can increase performance since no Message auditing will occur.

Returns:

the checkForDuplicates value currently set.

6.18.2.25 bool activemq::core::ActiveMQConnectionFactory::isDispatchAsync () const

Returns:

The value of the dispatch asynchronously option sent to the broker.

6.18.2.26 bool activemq::core::ActiveMQConnectionFactory::isExclusiveConsumer () const

Should all created consumers be exclusive.

Returns:

true if consumer will be created with the exclusive flag set.

6.18.2.27 bool activemq::core::ActiveMQConnectionFactory::isMessagePrioritySupported () const

Returns:

true if the Connections that this factory creates should support the message based priority settings.

6.18.2.28 bool activemq::core::ActiveMQConnectionFactory::isNonBlockingRedelivery () const

Returns true if non-blocking redelivery of Messages is configured for Consumers that are rolled back or recovered.

Returns:

true if non-blocking redelivery is enabled.

6.18.2.29 bool activemq::core::ActiveMQConnectionFactory::isOptimizeAcknowledge () const

Returns:

true if optimizeAcknowledge is enabled.

6.18.2.30 bool activemq::core::ActiveMQConnectionFactory::isSendAcksAsync () const

Returns whether Message acknowledgments are sent asynchronously meaning no response is required from the broker before the ack completes.

Returns:

the sendAcksAsync configured value. (defaults to true)

6.18.2.31 bool activemq::core::ActiveMQConnectionFactory::isTransactedIndividualAck () const

when true, submit individual transacted acks immediately rather than with transaction completion. This allows the acks to represent delivery status which can be persisted on rollback Used in conjunction with KahaDB set to Rewrite On Redelivery.

Returns:

true if this option is enabled.

6.18.2.32 bool activemq::core::ActiveMQConnectionFactory::isUseAsyncSend () const

Gets if the useAsyncSend option is set.

Returns:

true if on false if not.

6.18.2.33 bool activemq::core::ActiveMQConnectionFactory::isUseCompression () const

Gets if the Connection is configured for Message body compression.

Returns:

if the Message body will be Compressed or not.

6.18.2.34 bool activemq::core::ActiveMQConnectionFactory::isUseRetroactiveConsumer () const

Should all created consumers be retroactive.

Returns:

true if consumer will be created with the retroactive flag set.

6.18.2.35 bool activemq::core::ActiveMQConnectionFactory::isWatchTopicAdvisories () const

Is the Connection created by this factory configured to watch for advisory messages that inform the Connection about temporary destination create / destroy.

Returns:

true if Connection's will listen for temporary destination advisory messages.

6.18.2.36 void activemq::core::ActiveMQConnectionFactory::setAlwaysSyncSend (bool *value*)

Sets if the Connection should always send things Synchronously.

Parameters:

value true if sends should always be Synchronous.

6.18.2.37 void activemq::core::ActiveMQConnectionFactory::setAuditDepth (int *auditDepth*)

Set the audit depth for Messages for consumers when using a fault tolerant **transport** (p. 72). The higher the value the more messages are checked for duplication, and the larger the performance impact of duplicate detection will be.

Parameters:

auditDepth The configured audit depth.

6.18.2.38 void activemq::core::ActiveMQConnectionFactory::setAuditMaximumProducerNumber (int *auditMaximumProducerNumber*)

The number of Producers that will be audited.

Parameters:

auditMaximumProducerNumber The configured number of producers to include in the audit.

6.18.2.39 void activemq::core::ActiveMQConnectionFactory::setBrokerURI (const decaf::net::URI & *uri*)

Sets the Broker URI that should be used when creating a new connection instance.

Parameters:

brokerURI The URI of the broker that this client will connect to.

6.18.2.40 void activemq::core::ActiveMQConnectionFactory::setBrokerURI (const std::string & *uri*)

Sets the Broker URI that should be used when creating a new connection instance.

Parameters:

brokerURI The string form of the Broker URI, this will be converted to a URI object.

6.18.2.41 void activemq::core::ActiveMQConnectionFactory::setCheckForDuplicates (bool *checkForDuplicates*)

Gets the value of the configured Duplicate Message detection feature. When enabled and a fault tolerant **transport** (p. 72) is used (think failover) then this feature will help to detect and filter duplicate messages that might otherwise be delivered to a consumer after a connection failure.

Disabling this can increase performance since no Message auditing will occur.

Parameters:

checkForDuplicates The checkForDuplicates value to be configured.

6.18.2.42 void activemq::core::ActiveMQConnectionFactory::setClientId (const std::string & *clientId*)

Sets the Client Id.

Parameters:

clientId - The new clientId value.

6.18.2.43 void activemq::core::ActiveMQConnectionFactory::setCloseTimeout (unsigned int *timeout*)

Sets the close timeout to use when sending the disconnect request.

Parameters:

timeout - The time to wait for a close message.

6.18.2.44 void activemq::core::ActiveMQConnectionFactory::setCompressionLevel (int *value*)

Sets the Compression level used when Message body compression is enabled, a value of -1 causes the Compression Library to use the default setting which is a balance of speed and compression. The range of compression levels is [0..9] where 0 indicates best speed and 9 indicates best compression.

Parameters:

value A signed int value that controls the compression level.

6.18.2.45 void activemq::core::ActiveMQConnectionFactory::setConsumerFailoverRedeliveryWaitPeriod (long long *value*)

Sets the delay period for a consumer redelivery.

Parameters:

value The configured time delay in milliseconds.

6.18.2.46 void activemq::core::ActiveMQConnectionFactory::setDispatchAsync (bool *value*)

Should messages be dispatched synchronously or asynchronously from the producer thread for non-durable topics in the broker? For fast consumers set this to false. For slow consumers set it to true so that dispatching will not block fast consumers. .

Parameters:

value The value of the dispatch asynchronously option sent to the broker.

6.18.2.47 virtual void activemq::core::ActiveMQConnectionFactory::setExceptionListener (cms::ExceptionListener * *listener*) [virtual]

Set an CMS ExceptionListener that will be set on eat connection once it has been created. The factory does not take ownership of this pointer, the client must ensure that its lifetime is scoped to the connection that it is applied to.

Parameters:

listener The listener to set on the connection or NULL for no listener.

Implements **cms::ConnectionFactory** (p. 1111).

6.18.2.48 void activemq::core::ActiveMQConnectionFactory::setExclusiveConsumer (bool *exclusiveConsumer*)

Enables or disables whether or not queue consumers should be exclusive or not for example to preserve ordering when not using Message Groups.

Parameters:

exclusiveConsumer The value of this configuration option.

6.18.2.49 void activemq::core::ActiveMQConnectionFactory::setMessagePrioritySupported (bool *value*)

Set whether or not this factory should create Connection objects with the Message priority support function enabled.

Parameters:

value Boolean indicating if Message priority should be enabled.

6.18.2.50 virtual void activemq::core::ActiveMQConnectionFactory::setMessageTransformer (cms::MessageTransformer * *transformer*) [virtual]

Set an MessageTransformer instance that is passed on to all Connection objects created from this ConnectionFactory.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to set on all newly created Connection objects.

Implements **cms::ConnectionFactory** (p. 1111).

6.18.2.51 void activemq::core::ActiveMQConnectionFactory::setNonBlockingRedelivery (bool *nonBlockingRedelivery*)

When true a MessageConsumer will not stop Message delivery before re-delivering Messages from a rolled back transaction. This implies that message order will not be preserved and also will result in the TransactedIndividualAck option to be enabled.

Parameters:

nonBlockingRedelivery The value to configure for non-blocking redelivery.

6.18.2.52 void activemq::core::ActiveMQConnectionFactory::setOptimizeAcknowledge (bool *optimizeAcknowledge*)

Sets if Consumers are configured to use Optimized Acknowledge by default.

Parameters:

optimizeAcknowledge The optimizeAcknowledge mode to set.

6.18.2.53 void activemq::core::ActiveMQConnectionFactory::setOptimizeAcknowledgeTimeOut (long long *optimizeAcknowledgeTimeOut*)

The max time in milliseconds between optimized ack batches.

Parameters:

optimizeAcknowledgeTimeOut The time in milliseconds for optimized ack batches.

6.18.2.54 void activemq::core::ActiveMQConnectionFactory::setOptimizedAckScheduledAckInterval (long long *optimizedAckScheduledAckInterval*)

Sets the amount of time between scheduled sends of any outstanding Message Acks for consumers that have been configured with optimizeAcknowledge enabled. Time is given in Milliseconds.

Parameters:

optimizedAckScheduledAckInterval The scheduledOptimizedAckInterval to use for new Consumers.

6.18.2.55 void activemq::core::ActiveMQConnectionFactory::setPassword (const std::string & *password*)

Sets the password that should be used when creating a new connection.

Parameters:

password string

6.18.2.56 void activemq::core::ActiveMQConnectionFactory::setPrefetchPolicy (PrefetchPolicy * *policy*)

Sets the **PrefetchPolicy** (p. 2382) instance that this factory should use when it creates new Connection instances. The **PrefetchPolicy** (p. 2382) passed becomes the property of the factory and will be deleted when the factory is destroyed.

Parameters:

policy The new **PrefetchPolicy** (p. 2382) that the ConnectionFactory should clone for Connections.

6.18.2.57 void activemq::core::ActiveMQConnectionFactory::setProducerWindowSize (unsigned int *windowSize*)

Sets the size in Bytes of messages that a producer can send before it is blocked to await a ProducerAck from the broker that frees enough memory to allow another message to be sent.

Parameters:

windowSize - The size in bytes of the Producers memory window.

6.18.2.58 void activemq::core::ActiveMQConnectionFactory::setRedeliveryPolicy (RedeliveryPolicy * *policy*)

Sets the **RedeliveryPolicy** (p. 2527) instance that this factory should use when it creates new Connection instances. The **RedeliveryPolicy** (p. 2527) passed becomes the property of the factory and will be deleted when the factory is destroyed.

Parameters:

policy The new **RedeliveryPolicy** (p. 2527) that the ConnectionFactory should clone for Connections.

6.18.2.59 void activemq::core::ActiveMQConnectionFactory::setSendAcksAsync (bool *sendAcksAsync*)

Sets whether Message acknowledgments are sent asynchronously meaning no response is required from the broker before the ack completes.

Parameters:

sendAcksAsync The sendAcksAsync configuration value to set.

6.18.2.60 void activemq::core::ActiveMQConnectionFactory::setSendTimeout (unsigned int *timeout*)

Sets the send timeout to use when sending Message objects, this will cause all messages to be sent using a Synchronous request is non-zero.

Parameters:

timeout - The time to wait for a response.

6.18.2.61 void activemq::core::ActiveMQConnectionFactory::setTransactedIndividualAck (bool *transactedIndividualAck*)

when true, submit individual transacted acks immediately rather than with transaction completion. This allows the acks to represent delivery status which can be persisted on rollback Used in conjunction with KahaDB set to Rewrite On Redelivery.

Parameters:

transactedIndividualAck The value to set.

6.18.2.62 void activemq::core::ActiveMQConnectionFactory::setUseAsyncSend (bool *value*)

Sets the useAsyncSend option.

Parameters:

value - true to activate, false to disable.

6.18.2.63 void activemq::core::ActiveMQConnectionFactory::setUseCompression (bool *value*)

Sets whether Message body compression is enabled.

Parameters:

value Boolean indicating if Message body compression is enabled.

6.18.2.64 void activemq::core::ActiveMQConnectionFactory::setUseRetroactiveConsumer (bool *useRetroactiveConsumer*)

Sets whether or not retroactive consumers are enabled. Retroactive consumers allow non-durable topic subscribers to receive old messages that were published before the non-durable subscriber started.

Parameters:

useRetroactiveConsumer The value of this configuration option.

6.18.2.65 void activemq::core::ActiveMQConnectionFactory::setUsername (const std::string & *username*)

Sets the username that should be used when creating a new connection.

Parameters:

username string

6.18.2.66 void activemq::core::ActiveMQConnectionFactory::setWatchTopicAdvisories (bool *value*)

Sets whether Connection's created by this factory will listen for advisory messages regarding temporary destination creation and deletion.

Parameters:

value Boolean indicating if advisory message monitoring should be enabled.

6.18.3 Field Documentation

6.18.3.1 const std::string activemq::core::ActiveMQConnectionFactory::DEFAULT_URI [static]

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQConnectionFactory.h**

6.19 activemq::core::ActiveMQConnectionMetaData Class Reference

This class houses all the various settings and information that is used by an instance of an **ActiveMQConnection** (p. 232) class.

`#include <src/main/activemq/core/ActiveMQConnectionMetaData.h>`Inheritance diagram for activemq::core::ActiveMQConnectionMetaData:

Public Member Functions

- **ActiveMQConnectionMetaData** ()
- virtual ~**ActiveMQConnectionMetaData** ()
- virtual std::string **getCMSVersion** () const
  Gets the CMS API version.
- virtual int **getCMSMajorVersion** () const
  Gets the CMS major version number.
- virtual int **getCMSMinorVersion** () const
  Gets the CMS minor version number.
- virtual std::string **getCMSProviderName** () const
  Gets the CMS provider name.
- virtual std::string **getProviderVersion** () const
  Gets the CMS provider version.
- virtual int **getProviderMajorVersion** () const
  Gets the CMS provider major version number.
- virtual int **getProviderMinorVersion** () const
  Gets the CMS provider minor version number.
- virtual int **getProviderPatchVersion** () const
  Gets the CMS provider patch version number.
- virtual std::vector< std::string > **getCMSXPropertyNames** () const
  Gets an Vector of the CMSX property names.

6.19.1 Detailed Description

This class houses all the various settings and information that is used by an instance of an **ActiveMQConnection** (p. 232) class.

Since:

3.0

6.19.2 Constructor & Destructor Documentation

6.19.2.1 activemq::core::ActiveMQConnectionMetaData::ActiveMQConnectionMetaData ()

6.19.2.2 virtual activemq::core::ActiveMQConnectionMetaData::~ActiveMQConnectionMetaData () [virtual]

6.19.3 Member Function Documentation

6.19.3.1 virtual int activemq::core::ActiveMQConnectionMetaData::getCMSMajorVersion () const [virtual]

Gets the CMS major version number.

Returns:

the CMS API major version number

Exceptions:

CMSException If the CMS Provider fails to retrieve the metadata due to some internal error.

Implements **cms::ConnectionMetaData** (p. 1135).

6.19.3.2 virtual int activemq::core::ActiveMQConnectionMetaData::getCMSMinorVersion () const [virtual]

Gets the CMS minor version number.

Returns:

the CMS API minor version number

Exceptions:

CMSException If the CMS Provider fails to retrieve the metadata due to some internal error.

Implements **cms::ConnectionMetaData** (p. 1135).

6.19.3.3 virtual std::string activemq::core::ActiveMQConnectionMetaData::getCMSProviderName () const [virtual]

Gets the CMS provider name.

Returns:

the CMS provider name

Exceptions:

CMSException If the CMS Provider fails to retrieve the metadata due to some internal error.

Implements **cms::ConnectionMetaData** (p. 1135).

6.19.3.4 virtual std::string activemq::core::ActiveMQConnectionMetaData::getCMSVersion () const [virtual]

Gets the CMS API version.

Returns:

the CMS API Version in String form.

Exceptions:

CMSException If the CMS Provider fails to retrieve the metadata due to some internal error.

Implements **cms::ConnectionMetaData** (p. 1136).

6.19.3.5 virtual std::vector<std::string> activemq::core::ActiveMQConnectionMetaData::getCMSXPropertyNames () const [virtual]

Gets an Vector of the CMSX property names.

Returns:

an Vector of CMSX property names

Exceptions:

CMSException If the CMS Provider fails to retrieve the metadata due to some internal error.

Implements **cms::ConnectionMetaData** (p. 1136).

6.19.3.6 virtual int activemq::core::ActiveMQConnectionMetaData::getProviderMajorVersion () const [virtual]

Gets the CMS provider major version number.

Returns:

the CMS provider major version number

Exceptions:

CMSException If the CMS Provider fails to retrieve the metadata due to some internal error.

Implements **cms::ConnectionMetaData** (p. 1136).

6.19.3.7 virtual int activemq::core::ActiveMQConnectionMetaData::getProviderMinorVersion () const [virtual]

Gets the CMS provider minor version number.

Returns:

the CMS provider minor version number

Exceptions:

CMSException If the CMS Provider fails to retrieve the metadata due to some internal error.

Implements **cms::ConnectionMetaData** (p. 1136).

6.19.3.8 virtual int activemq::core::ActiveMQConnectionMetaData::getProviderPatchVersion () const [virtual]

Gets the CMS provider patch version number.

Returns:

the CMS provider patch version number

Exceptions:

CMSException If the CMS Provider fails to retrieve the metadata due to some internal error.

Implements **cms::ConnectionMetaData** (p. 1137).

6.19.3.9 virtual std::string activemq::core::ActiveMQConnectionMetaData::getProviderVersion () const [virtual]

Gets the CMS provider version.

Returns:

the CMS provider version

Exceptions:

CMSException If the CMS Provider fails to retrieve the metadata due to some internal error.

Implements **cms::ConnectionMetaData** (p. 1137).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQConnectionMetaData.h**

6.20 activemq::core::ActiveMQConstants Class Reference

Class holding constant values for various ActiveMQ specific things Each constant is defined as an enumeration and has functions that convert back an forth between string and enum values.

`#include <src/main/activemq/core/ActiveMQConstants.h>`

Data Structures

- class **StaticInitializer**

Public Types

- enum **TransactionState** {

  TRANSACTION_STATE_BEGIN = 0, **TRANSACTION_STATE_PREPARE** = 1, **TRANSACTION_STATE_COMMITONEPHASE** = 2, **TRANSACTION_STATE_COMMITTWOPHASE** = 3,

  TRANSACTION_STATE_ROLLBACK = 4, **TRANSACTION_STATE_RECOVER** = 5, **TRANSACTION_STATE_FORGET** = 6, **TRANSACTION_STATE_END** = 7 }
- enum **DestinationActions** { **DESTINATION_ADD_OPERATION** = 0, **DESTINATION_REMOVE_OPERATION** = 1 }
- enum **AckType** {

  ACK_TYPE_DELIVERED = 0, **ACK_TYPE_POISON** = 1, **ACK_TYPE_CONSUMED** = 2, **ACK_TYPE_REDELIVERED** = 3,

  ACK_TYPE_INDIVIDUAL = 4 }
- enum **DestinationOption** {

  CONSUMER_PREFECTCHSIZE, **CUNSUMER_MAXPENDINGMSGLIMIT**, **CONSUMER_NOLOCAL**, **CONSUMER_DISPATCHASYNC**,

  CONSUMER_RETROACTIVE, **CONSUMER_SELECTOR**, **CONSUMER_EXCLUSIVE**, **CONSUMER_PRIORITY**,

  NUM_OPTIONS }

  These values represent the options that can be appended to an Destination name, i.e.
- enum **URIParam** {

  CONNECTION_SENDTIMEOUT, **CONNECTION_PRODUCERWINDOWSIZE**, **CONNECTION_CLOSETIMEOUT**, **CONNECTION_ALWAYSSYNCSEND**,

  CONNECTION_USEASYNCSEND, **CONNECTION_USECOMPRESSION**, **CONNECTION_DISPATCHASYNC**, **PARAM_USERNAME**,

  PARAM_PASSWORD, **PARAM_CLIENTID**, **NUM_PARAMS** }

  These values represent the parameters that can be added to the connection URI that affect the ActiveMQ Core API.

Static Public Member Functions

- static const std::string & **toString** (const **DestinationOption** option)
- static **DestinationOption toDestinationOption** (const std::string &option)
- static const std::string & **toString** (const **URIParam** option)
- static **URIParam toURIOption** (const std::string &option)

6.20.1 Detailed Description

Class holding constant values for various ActiveMQ specific things Each constant is defined as an enumeration and has functions that convert back an forth between string and enum values.

6.20.2 Member Enumeration Documentation

6.20.2.1 enum activemq::core::ActiveMQConstants::AckType

Enumerator:

ACK_TYPE_DELIVERED
ACK_TYPE_POISON
ACK_TYPE_CONSUMED
ACK_TYPE_REDELIVERED
ACK_TYPE_INDIVIDUAL

6.20.2.2 enum activemq::core::ActiveMQConstants::DestinationActions

Enumerator:

DESTINATION_ADD_OPERATION
DESTINATION_REMOVE_OPERATION

6.20.2.3 enum activemq::core::ActiveMQConstants::DestinationOption

These values represent the options that can be appended to an Destination name, i.e. /topic/-foo?consumer.exclusive=true

Enumerator:

CONSUMER_PREFECTCHSIZE
CUNSUMER_MAXPENDINGMSGLIMIT
CONSUMER_NOLOCAL
CONSUMER_DISPATCHASYNC
CONSUMER_RETROACTIVE
CONSUMER_SELECTOR
CONSUMER_EXCLUSIVE
CONSUMER_PRIORITY
NUM_OPTIONS

6.20.2.4 enum activemq::core::ActiveMQConstants::TransactionState

Enumerator:

TRANSACTION_STATE_BEGIN
TRANSACTION_STATE_PREPARE
TRANSACTION_STATE_COMMITONEPHASE
TRANSACTION_STATE_COMMITTWOPHASE
TRANSACTION_STATE_ROLLBACK
TRANSACTION_STATE_RECOVER
TRANSACTION_STATE_FORGET
TRANSACTION_STATE_END

6.20.2.5 enum activemq::core::ActiveMQConstants::URIParam

These values represent the parameters that can be added to the connection URI that affect the ActiveMQ Core API.

Enumerator:

CONNECTION_SENDTIMEOUT
CONNECTION_PRODUCERWINDOWSIZE
CONNECTION_CLOSETIMEOUT
CONNECTION_ALWAYSSYNCSEND
CONNECTION_USEASYNCSEND
CONNECTION_USECOMPRESSION
CONNECTION_DISPATCHASYNC
PARAM_USERNAME
PARAM_PASSWORD
PARAM_CLIENTID
NUM_PARAMS

6.20.3 Member Function Documentation

6.20.3.1 static DestinationOption activemq::core::ActiveMQConstants::toDestinationOption (const std::string & *option*) [inline, static]

6.20.3.2 static const std::string& activemq::core::ActiveMQConstants::toString (const URIParam *option*) [inline, static]

6.20.3.3 static const std::string& activemq::core::ActiveMQConstants::toString (const DestinationOption *option*) [inline, static]

6.20.3.4 static URIParam activemq::core::ActiveMQConstants::toURIOption (const std::string & *option*) [inline, static]

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQConstants.h**

6.21 activemq::core::ActiveMQConsumer Class Reference

`#include <src/main/activemq/core/ActiveMQConsumer.h>`Inheritance diagram for activemq::core::ActiveMQConsumer:

Public Member Functions

- **ActiveMQConsumer** (const **Pointer< activemq::core::kernels::ActiveMQConsumerKernel >** &kernel)

  *Create a new **ActiveMQConsumer** (p. 295) that contains the pointer to the Kernel that implement the real MessageConsumer functionality.*

- virtual ~**ActiveMQConsumer** ()
- virtual void **start** ()

  Starts the service.

- virtual void **stop** ()

  Stops this service.

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual **cms::Message** * **receive** ()

  Synchronously Receive a Message.

- virtual **cms::Message** * **receive** (int millisecs)

  Synchronously Receive a Message, time out after defined interval.

- virtual **cms::Message** * **receiveNoWait** ()

  Receive a Message, does not wait if there isn't a new message to read, returns NULL if nothing read.

- virtual void **setMessageListener** (**cms::MessageListener** *listener)

  Sets the MessageListener that this class will send notifs on.

- virtual **cms::MessageListener** * **getMessageListener** () const

  Gets the MessageListener that this class will send mew Message notification events to.

- virtual void **setMessageAvailableListener** (**cms::MessageAvailableListener** *listener)

  Sets the MessageAvailableListener that this class will send events to if the consumer is in synchronous consumption mode and a new Message has arrived.

- virtual **cms::MessageAvailableListener** * **getMessageAvailableListener** () const

  Gets the MessageAvailableListener that this class will send mew Message notification events to.

- virtual std::string **getMessageSelector** () const

  Gets this message consumer's message selector expression.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

  *Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are dispatched to client **code** (p. 999).*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  Gets the currently configured MessageTransformer for this MessageConsumer.

- const **Pointer**< **commands::ConsumerInfo** > & **getConsumerInfo** () const

  Get the Consumer information for this consumer.

- const **Pointer**< **commands::ConsumerId** > & **getConsumerId** () const

  Get the Consumer Id for this consumer.

- bool **isClosed** () const
- int **getMessageAvailableCount** () const
- void **setRedeliveryPolicy** (**RedeliveryPolicy** *policy)

  *Sets the **RedeliveryPolicy** (p. 2527) this Consumer should use when a rollback is performed on a transacted Consumer.*

- **RedeliveryPolicy** * **getRedeliveryPolicy** () const

  Gets a pointer to this Consumer's Redelivery Policy object, the Consumer retains ownership of this pointer so the caller should not delete it.

- **decaf::lang::Exception** * **getFailureError** () const

  *Gets the error that caused this Consumer to be in a Failed **state** (p. 70), or NULL if there is no Error.*

- long long **getOptimizedAckScheduledAckInterval** () const

  Time in Milliseconds before an automatic acknowledge is done for any outstanding delivered Messages.

- void **setOptimizedAckScheduledAckInterval** (long long value)

  Sets the time in Milliseconds to schedule an automatic acknowledge of outstanding messages when optimize acknowledge is enabled.

- bool **isOptimizeAcknowledge** () const
- void **setOptimizeAcknowledge** (bool value)

  Enable or disable optimized acknowledge for this consumer.

6.21.1 Constructor & Destructor Documentation

6.21.1.1 activemq::core::ActiveMQConsumer::ActiveMQConsumer (const Pointer< activemq::core::kernels::ActiveMQConsumerKernel > & *kernel*)

Create a new **ActiveMQConsumer** (p. 295) that contains the pointer to the Kernel that implement the real MessageConsumer functionality.

Parameters:

ActiveMQConsumerKernel This Consumer's functionality kernel.

6.21.1.2 virtual activemq::core::ActiveMQConsumer::~ActiveMQConsumer () [virtual]

6.21.2 Member Function Documentation

6.21.2.1 virtual void activemq::core::ActiveMQConsumer::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

CMSException - If an error occurs while the resource is being closed.

Implements **cms::Closeable** (p. 959).

6.21.2.2 const Pointer<commands::ConsumerId>& activemq::core::ActiveMQConsumer::getConsumerId () const

Get the Consumer Id for this consumer.

Returns:

Reference to a Consumer Id Object

6.21.2.3 const Pointer<commands::ConsumerInfo>& activemq::core::ActiveMQConsumer::getConsumerInfo () const

Get the Consumer information for this consumer.

Returns:

Reference to a Consumer Info Object

6.21.2.4 decaf::lang::Exception* activemq::core::ActiveMQConsumer::getFailureError () const

Gets the error that caused this Consumer to be in a Failed **state** (p. 70), or NULL if there is no Error.

Returns:

pointer to the error that faulted this Consumer or NULL.

6.21.2.5 int activemq::core::ActiveMQConsumer::getMessageAvailableCount () const

Returns:

the number of Message's this consumer is waiting to Dispatch.

6.21.2.6 virtual cms::MessageAvailableListener* activemq::core::ActiveMQConsumer::getMessageAvailableListener () const [virtual]

Gets the MessageAvailableListener that this class will send mew Message notification events to.

Returns:

The listener of message events received by this consumer.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2115).

6.21.2.7 virtual cms::MessageListener* activemq::core::ActiveMQConsumer::getMessageListener () const [virtual]

Gets the MessageListener that this class will send mew Message notification events to.

Returns:

The listener of messages received by this consumer

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2116).

6.21.2.8 virtual std::string activemq::core::ActiveMQConsumer::getMessageSelector () const [virtual]

Gets this message consumer's message selector expression.

Returns:

This Consumer's selector expression or "".

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2116).

6.21.2.9 virtual cms::MessageTransformer* activemq::core::ActiveMQConsumer::getMessageTransformer () const [virtual]

Gets the currently configured MessageTransformer for this MessageConsumer.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::MessageConsumer** (p. 2116).

6.21.2.10 long long activemq::core::ActiveMQConsumer::getOptimizedAckScheduledAckInterval () const

Time in Milliseconds before an automatic acknowledge is done for any outstanding delivered Messages. A value less than one means no task is scheduled.

Returns:

time in milliseconds for the scheduled ack task.

6.21.2.11 RedeliveryPolicy* activemq::core::ActiveMQConsumer::getRedeliveryPolicy () const

Gets a pointer to this Consumer's Redelivery Policy object, the Consumer retains ownership of this pointer so the caller should not delete it.

Returns:

a Pointer to a **RedeliveryPolicy** (p. 2527) that is in use by this Consumer.

6.21.2.12 bool activemq::core::ActiveMQConsumer::isClosed () const

Returns:

if this Consumer has been closed.

6.21.2.13 bool activemq::core::ActiveMQConsumer::isOptimizeAcknowledge () const

Returns:

true if this consumer is using optimize acknowledge mode.

6.21.2.14 virtual cms::Message* activemq::core::ActiveMQConsumer::receive (int *millisecs*) [virtual]

Synchronously Receive a Message, time out after defined interval. Returns null if nothing read.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2117).

6.21.2.15 virtual cms::Message* activemq::core::ActiveMQConsumer::receive () [virtual]

Synchronously Receive a Message.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2117).

6.21.2.16 virtual cms::Message* activemq::core::ActiveMQConsumer::receiveNoWait () [virtual]

Receive a Message, does not wait if there isn't a new message to read, returns NULL if nothing read.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2117).

6.21.2.17 virtual void activemq::core::ActiveMQConsumer::setMessageAvailableListener (cms::MessageAvailableListener * *listener*) [virtual]

Sets the MessageAvailableListener that this class will send events to if the consumer is in synchronous consumption mode and a new Message has arrived.

Parameters:

listener The listener of new message events fired by this consumer.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2118).

6.21.2.18 virtual void activemq::core::ActiveMQConsumer::setMessageListener (cms::MessageListener * *listener*) [virtual]

Sets the MessageListener that this class will send notifs on.

Parameters:

listener The listener of messages received by this consumer.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2118).

6.21.2.19 virtual void activemq::core::ActiveMQConsumer::setMessageTransformer (cms::MessageTransformer * *transformer*) [virtual]

Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are dispatched to client **code** (p. 999). The CMS **code** (p. 999) never takes ownership of the MessageTransformer pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the MessageTransformer has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to apply on each **cms** (p. 91)::;Message dispatch.

Implements **cms::MessageConsumer** (p. 2118).

6.21.2.20 void activemq::core::ActiveMQConsumer::setOptimizeAcknowledge (bool *value*)

Enable or disable optimized acknowledge for this consumer.

Parameters:

value True if optimize acknowledge is enabled, false otherwise.

6.21.2.21 void activemq::core::ActiveMQConsumer::setOptimizedAckScheduledAckInterval (long long *value*)

Sets the time in Milliseconds to schedule an automatic acknowledge of outstanding messages when optimize acknowledge is enabled. A value less than one means disable any scheduled tasks.

Parameters:

value The time interval to send scheduled acks.

6.21.2.22 void activemq::core::ActiveMQConsumer::setRedeliveryPolicy (RedeliveryPolicy * *policy*)

Sets the **RedeliveryPolicy** (p. 2527) this Consumer should use when a rollback is performed on a transacted Consumer. The Consumer takes ownership of the passed pointer. The Consumer's redelivery policy can never be null, a call to this method with a NULL pointer is ignored.

Parameters:

policy Pointer to a Redelivery Policy object that his Consumer will use.

6.21.2.23 virtual void activemq::core::ActiveMQConsumer::start () [virtual]

Starts the service.

Exceptions:

CMSException if an internal error occurs while starting.

Implements **cms::Startable** (p. 2836).

6.21.2.24 virtual void activemq::core::ActiveMQConsumer::stop () [virtual]

Stops this service.

Exceptions:

CMSException - if an internal error occurs while stopping the Service.

Implements **cms::Stoppable** (p. 2903).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQConsumer.h**

6.22 activemq::core::kernels::ActiveMQConsumerKernel Class Reference

`#include <src/main/activemq/core/kernels/ActiveMQConsumerKernel.h>`Inheritance diagram for activemq::core::kernels::ActiveMQConsumerKernel:

Public Member Functions

- **ActiveMQConsumerKernel** (**ActiveMQSessionKernel** *session, const **Pointer< commands::ConsumerId >** &id, const **Pointer< commands::ActiveMQDestination >** &destination, const std::string &name, const std::string &selector, int prefetch, int maxPendingMessageCount, bool noLocal, bool browser, bool dispatchAsync, **cms::MessageListener** *listener)
- virtual ~**ActiveMQConsumerKernel** ()
- virtual void **start** ()

  Starts the service.

- virtual void **stop** ()

  Stops this service.

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual **cms::Message** * **receive** ()

  Synchronously Receive a Message.

- virtual **cms::Message** * **receive** (int millisecs)

  Synchronously Receive a Message, time out after defined interval.

- virtual **cms::Message** * **receiveNoWait** ()

  Receive a Message, does not wait if there isn't a new message to read, returns NULL if nothing read.

- virtual void **setMessageListener** (**cms::MessageListener** *listener)

  Sets the MessageListener that this class will send notifs on.

- virtual **cms::MessageListener** * **getMessageListener** () const

  Gets the MessageListener that this class will send mew Message notification events to.

- virtual void **setMessageAvailableListener** (**cms::MessageAvailableListener** *listener)

  Sets the MessageAvailableListener that this class will send events to if the consumer is in synchronous consumption mode and a new Message has arrived.

- virtual **cms::MessageAvailableListener** * **getMessageAvailableListener** () const

  Gets the MessageAvailableListener that this class will send mew Message notification events to.

- virtual std::string **getMessageSelector** () const

Gets this message consumer's message selector expression.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

  *Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are dispatched to client **code** (p. 999).*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  Gets the currently configured MessageTransformer for this MessageConsumer.

- virtual void **dispatch** (const **Pointer**< **MessageDispatch** > &message)

  Dispatches a message to a particular consumer.

- virtual int **getHashCode** () const

  *HashCode method allowing **Dispatcher** (p. 1400) instances to be used in HashMap etc.*

- void **acknowledge** ()

  Method called to acknowledge all messages that have been received so far.

- void **acknowledge** (**Pointer**< **commands::MessageDispatch** > dispatch)

  Method called to acknowledge the Message contained in the given MessageDispatch.

- void **acknowledge** (**Pointer**< **commands::MessageDispatch** > dispatch, int ackType)

  Method called to acknowledge the Message contained in the given MessageDispatch.

- void **commit** ()

  Called to Commit the current set of messages in this Transaction.

- void **rollback** ()

  Called to Roll back the current set of messages in this Transaction.

- void **doClose** ()

  Performs the actual close operation on this consumer.

- void **dispose** ()

  Cleans up this objects internal resources.

- const **Pointer**< **commands::ConsumerInfo** > & **getConsumerInfo** () const

  Get the Consumer information for this consumer.

- const **Pointer**< **commands::ConsumerId** > & **getConsumerId** () const

  Get the Consumer Id for this consumer.

- bool **isClosed** () const
- bool **isSynchronizationRegistered** () const

  *Has this Consumer Transaction **Synchronization** (p. 2952) been added to the transaction.*

- void **setSynchronizationRegistered** (bool value)

  *Sets the **Synchronization** (p. 2952) Registered **state** (p. 70) of this consumer.*

- bool **iterate** ()

Deliver any pending messages to the registered MessageListener if there is one, return true if not all dispatched, or false if no listener or all pending messages have been dispatched.

- void **deliverAcks** ()

  Forces this consumer to send all pending acks to the broker.

- void **clearMessagesInProgress** ()

  Called on a Failover to clear any pending messages.

- void **inProgressClearRequired** ()

  Signals that a Failure occurred and that anything in-progress in the consumer should be cleared.

- long long **getLastDeliveredSequenceId** () const

  Gets the currently set Last Delivered Sequence Id.

- bool **isTransactedIndividualAck** () const

  Will Message's in a transaction be acknowledged using the Individual Acknowledge mode.

- void **setTransactedIndividualAck** (bool value)

  Set if Message's in a transaction be acknowledged using the Individual Acknowledge mode.

- long long **setFailoverRedeliveryWaitPeriod** () const

  Returns the delay after a failover before Message redelivery starts.

- void **setFailoverRedeliveryWaitPeriod** (long long value)

  Sets the time in milliseconds to delay after failover before starting message redelivery.

- void **setLastDeliveredSequenceId** (long long value)

  Sets the value of the Last Delivered Sequence Id.

- int **getMessageAvailableCount** () const
- void **setRedeliveryPolicy** (**RedeliveryPolicy** *policy)

  *Sets the **RedeliveryPolicy** (p. 2527) this Consumer should use when a rollback is performed on a transacted Consumer.*

- **RedeliveryPolicy** * **getRedeliveryPolicy** () const

  Gets a pointer to this Consumer's Redelivery Policy object, the Consumer retains ownership of this pointer so the caller should not delete it.

- void **setFailureError** (**decaf::lang::Exception** *error)

  *Sets the Exception that has caused this Consumer to be in a failed **state** (p. 70).*

- **decaf::lang::Exception** * **getFailureError** () const

  *Gets the error that caused this Consumer to be in a Failed **state** (p. 70), or NULL if there is no Error.*

- void **setPrefetchSize** (int prefetchSize)

  Sets the current prefetch size for the consumer as indicated by a Broker ConsumerControl command.

- bool **isInUse** (**Pointer**< **commands::ActiveMQDestination** > destination) const

Checks if the given destination is the Destination that this Consumer is subscribed to.

- long long **getOptimizedAckScheduledAckInterval** () const

  Time in Milliseconds before an automatic acknowledge is done for any outstanding delivered Messages.

- void **setOptimizedAckScheduledAckInterval** (long long value)

  Sets the time in Milliseconds to schedule an automatic acknowledge of outstanding messages when optimize acknowledge is enabled.

- bool **isOptimizeAcknowledge** () const
- void **setOptimizeAcknowledge** (bool value)

  Enable or disable optimized acknowledge for this consumer.

Protected Member Functions

- **Pointer< MessageDispatch > dequeue** (long long timeout)

  Used by synchronous receive methods to wait for messages to come in.

- void **beforeMessageIsConsumed** (**Pointer< commands::MessageDispatch >** dispatch)

  Pre-consume processing.

- void **afterMessageIsConsumed** (**Pointer< commands::MessageDispatch >** dispatch, bool messageExpired)

  Post-consume processing.

6.22.1 Constructor & Destructor Documentation

6.22.1.1 activemq::core::kernels::ActiveMQConsumerKernel::ActiveMQConsumerKernel (ActiveMQSessionKernel * *session*, const Pointer< commands::ConsumerId > & *id*, const Pointer< commands::ActiveMQDestination > & *destination*, const std::string & *name*, const std::string & *selector*, int *prefetch*, int *maxPendingMessageCount*, bool *noLocal*, bool *browser*, bool *dispatchAsync*, cms::MessageListener * *listener*)

6.22.1.2 virtual activemq::core::kernels::ActiveMQConsumerKernel::~ActiveMQConsumerKernel () [virtual]

6.22.2 Member Function Documentation

6.22.2.1 void activemq::core::kernels::ActiveMQConsumerKernel::acknowledge (Pointer< commands::MessageDispatch > *dispatch*, int *ackType*)

Method called to acknowledge the Message contained in the given MessageDispatch.

Exceptions:

CMSException if an error occurs while ack'ing the message.

6.22.2.2 void activemq::core::kernels::ActiveMQConsumerKernel::acknowledge (Pointer< commands::MessageDispatch > *dispatch*)

Method called to acknowledge the Message contained in the given MessageDispatch.

Exceptions:

CMSException if an error occurs while ack'ing the message.

6.22.2.3 void activemq::core::kernels::ActiveMQConsumerKernel::acknowledge ()

Method called to acknowledge all messages that have been received so far.

Exceptions:

CMSException if an error occurs while ack'ing the message.

6.22.2.4 void activemq::core::kernels::ActiveMQConsumerKernel::afterMessageIsConsumed (Pointer< commands::MessageDispatch > *dispatch*, bool *messageExpired*) [protected]

Post-consume processing.

Parameters:

dispatch - the consumed message

messageExpired - flag indicating if the message has expired.

6.22.2.5 void activemq::core::kernels::ActiveMQConsumerKernel::beforeMessageIsConsumed (Pointer< commands::MessageDispatch > *dispatch*) [protected]

Pre-consume processing.

Parameters:

dispatch - the message being consumed.

6.22.2.6 void activemq::core::kernels::ActiveMQConsumerKernel::clearMessagesInProgress ()

Called on a Failover to clear any pending messages.

6.22.2.7 virtual void activemq::core::kernels::ActiveMQConsumerKernel::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

CMSException - If an error occurs while the resource is being closed.

Implements **cms::Closeable** (p. 959).

6.22.2.8 void activemq::core::kernels::ActiveMQConsumerKernel::commit ()

Called to Commit the current set of messages in this Transaction.

Exceptions:

ActiveMQException if an error occurs while performing the operation.

6.22.2.9 void activemq::core::kernels::ActiveMQConsumerKernel::deliverAcks ()

Forces this consumer to send all pending acks to the broker.

Exceptions:

ActiveMQException if an error occurs while performing the operation.

6.22.2.10 Pointer<MessageDispatch> activemq::core::kernels::ActiveMQConsumerKernel::dequeue (long long *timeout*) [protected]

Used by synchronous receive methods to wait for messages to come in.

Parameters:

timeout - The maximum number of milliseconds to wait before returning.

If -1, it will block until a messages is received or this consumer is closed. If 0, will not block at all. If > 0, will wait at a maximum the specified number of milliseconds before returning.

Returns:

the message, if received within the allotted time. Otherwise NULL.

Exceptions:

InvalidStateException if this consumer is closed upon entering this method.

6.22.2.11 virtual void activemq::core::kernels::ActiveMQConsumerKernel::dispatch (const Pointer< MessageDispatch > & *message*) [virtual]

Dispatches a message to a particular consumer.

Parameters:

message The message to be dispatched to a waiting consumer.

Implements **activemq::core::Dispatcher** (p. 1400).

6.22.2.12 void activemq::core::kernels::ActiveMQConsumerKernel::dispose ()

Cleans up this objects internal resources.

Exceptions:

ActiveMQException if an error occurs while performing the operation.

6.22.2.13 void activemq::core::kernels::ActiveMQConsumerKernel::doClose ()

Performs the actual close operation on this consumer.

Exceptions:

ActiveMQException if an error occurs while performing the operation.

6.22.2.14 const Pointer<commands::ConsumerId>& activemq::core::kernels::ActiveMQConsumerKernel::getConsumerId () const

Get the Consumer Id for this consumer.

Returns:

Reference to a Consumer Id Object

6.22.2.15 const Pointer<commands::ConsumerInfo>& activemq::core::kernels::ActiveMQConsumerKernel::getConsumerInfo () const

Get the Consumer information for this consumer.

Returns:

Reference to a Consumer Info Object

6.22.2.16 decaf::lang::Exception* activemq::core::kernels::ActiveMQConsumerKernel::getFailureError () const

Gets the error that caused this Consumer to be in a Failed **state** (p. 70), or NULL if there is no Error.

Returns:

pointer to the error that faulted this Consumer or NULL.

6.22.2.17 virtual int activemq::core::kernels::ActiveMQConsumerKernel::getHashCode () const [virtual]

HashCode method allowing **Dispatcher** (p. 1400) instances to be used in HashMap etc.

Returns:

hash value for this **Dispatcher** (p. 1400).

Implements **activemq::core::Dispatcher** (p. 1400).

6.22.2.18 long long activemq::core::kernels::ActiveMQConsumerKernel::getLastDeliveredSequenceId () const

Gets the currently set Last Delivered Sequence Id.

Returns:

long long containing the sequence id of the last delivered Message.

6.22.2.19 int activemq::core::kernels::ActiveMQConsumerKernel::getMessageAvailableCount () const

Returns:

the number of Message's this consumer is waiting to Dispatch.

6.22.2.20 virtual cms::MessageAvailableListener* activemq::core::kernels::ActiveMQConsumerKernel::getMessageAvailableListener () const [virtual]

Gets the MessageAvailableListener that this class will send mew Message notification events to.

Returns:

The listener of message events received by this consumer.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2115).

6.22.2.21 virtual cms::MessageListener* activemq::core::kernels::ActiveMQConsumerKernel::getMessageListener () const [virtual]

Gets the MessageListener that this class will send mew Message notification events to.

Returns:

The listener of messages received by this consumer

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2116).

6.22.2.22 virtual std::string activemq::core::kernels::ActiveMQConsumerKernel::getMessageSelector () const [virtual]

Gets this message consumer's message selector expression.

Returns:

This Consumer's selector expression or "".

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2116).

6.22.2.23 virtual cms::MessageTransformer* activemq::core::kernels::ActiveMQConsumerKernel::getMessageTransformer () const [virtual]

Gets the currently configured MessageTransformer for this MessageConsumer.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::MessageConsumer** (p. 2116).

6.22.2.24 long long activemq::core::kernels::ActiveMQConsumerKernel::getOptimizedAckScheduledAckInterval () const

Time in Milliseconds before an automatic acknowledge is done for any outstanding delivered Messages. A value less than one means no task is scheduled.

Returns:

time in milliseconds for the scheduled ack task.

6.22.2.25 RedeliveryPolicy* activemq::core::kernels::ActiveMQConsumerKernel::getRedeliveryPolicy () const

Gets a pointer to this Consumer's Redelivery Policy object, the Consumer retains ownership of this pointer so the caller should not delete it.

Returns:

a Pointer to a **RedeliveryPolicy** (p. 2527) that is in use by this Consumer.

6.22.2.26 void activemq::core::kernels::ActiveMQConsumerKernel::inProgressClearRequired ()

Signals that a Failure occurred and that anything in-progress in the consumer should be cleared.

6.22.2.27 bool activemq::core::kernels::ActiveMQConsumerKernel::isClosed () const

Returns:

if this Consumer has been closed.

6.22.2.28 bool activemq::core::kernels::ActiveMQConsumerKernel::isInUse (Pointer< commands::ActiveMQDestination > *destination*) const

Checks if the given destination is the Destination that this Consumer is subscribed to.

Returns:

true if the consumer is subscribed to the given destination.

6.22.2.29 bool activemq::core::kernels::ActiveMQConsumerKernel::isOptimizeAcknowledge () const

Returns:

true if this consumer is using optimize acknowledge mode.

6.22.2.30 bool activemq::core::kernels::ActiveMQConsumerKernel::isSynchronizationRegistered () const

Has this Consumer Transaction **Synchronization** (p. 2952) been added to the transaction.

Returns:

true if the synchronization has been added.

6.22.2.31 bool activemq::core::kernels::ActiveMQConsumerKernel::isTransactedIndividualAck () const

Will Message's in a transaction be acknowledged using the Individual Acknowledge mode.

Returns:

true if individual transacted acknowledge is enabled.

6.22.2.32 bool activemq::core::kernels::ActiveMQConsumerKernel::iterate ()

Deliver any pending messages to the registered MessageListener if there is one, return true if not all dispatched, or false if no listener or all pending messages have been dispatched.

6.22.2.33 virtual cms::Message* activemq::core::kernels::ActiveMQConsumerKernel::receive (int *millisecs*) [virtual]

Synchronously Receive a Message, time out after defined interval. Returns null if nothing read.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2117).

6.22.2.34 virtual cms::Message* activemq::core::kernels::ActiveMQConsumerKernel::receive () [virtual]

Synchronously Receive a Message.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2117).

6.22.2.35 virtual cms::Message* activemq::core::kernels::ActiveMQConsumerKernel::receiveNoWait () [virtual]

Receive a Message, does not wait if there isn't a new message to read, returns NULL if nothing read.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2117).

6.22.2.36 void activemq::core::kernels::ActiveMQConsumerKernel::rollback ()

Called to Roll back the current set of messages in this Transaction.

Exceptions:

ActiveMQException if an error occurs while performing the operation.

6.22.2.37 void activemq::core::kernels::ActiveMQConsumerKernel::setFailoverRedeliveryWaitPeriod (long long *value*)

Sets the time in milliseconds to delay after failover before starting message redelivery.

Parameters:

value Time in milliseconds to delay after failover for redelivery start.

6.22.2.38 long long activemq::core::kernels::ActiveMQConsumerKernel::setFailoverRedeliveryWaitPeriod () const

Returns the delay after a failover before Message redelivery starts.

Returns:

time in milliseconds to wait after failover.

6.22.2.39 void activemq::core::kernels::ActiveMQConsumerKernel::setFailureError (decaf::lang::Exception * *error*)

Sets the Exception that has caused this Consumer to be in a failed **state** (p. 70).

Parameters:

error The error that is to be thrown when a Receive call is made.

6.22.2.40 void activemq::core::kernels::ActiveMQConsumerKernel::setLastDeliveredSequenceId (long long *value*)

Sets the value of the Last Delivered Sequence Id.

Parameters:

value The new value to assign to the Last Delivered Sequence Id property.

6.22.2.41 virtual void activemq::core::kernels::ActiveMQConsumerKernel::setMessageAvailableListener (cms::MessageAvailableListener * *listener*) [virtual]

Sets the MessageAvailableListener that this class will send events to if the consumer is in synchronous consumption mode and a new Message has arrived.

Parameters:

listener The listener of new message events fired by this consumer.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2118).

6.22.2.42 virtual void activemq::core::kernels::ActiveMQConsumerKernel::setMessageListener (cms::MessageListener * *listener*) [virtual]

Sets the MessageListener that this class will send notifs on.

Parameters:

listener The listener of messages received by this consumer.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2118).

6.22.2.43 virtual void activemq::core::kernels::ActiveMQConsumerKernel::setMessageTransformer (cms::MessageTransformer * *transformer*) [virtual]

Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are dispatched to client **code** (p. 999). The CMS **code** (p. 999) never takes ownership of the MessageTransformer pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the MessageTransformer has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to apply on each **cms** (p. 91)::Message dispatch.

Implements **cms::MessageConsumer** (p. 2118).

6.22.2.44 void activemq::core::kernels::ActiveMQConsumerKernel::setOptimizeAcknowledge (bool *value*)

Enable or disable optimized acknowledge for this consumer.

Parameters:

value True if optimize acknowledge is enabled, false otherwise.

6.22.2.45 void activemq::core::kernels::ActiveMQConsumerKernel::setOptimizedAckScheduledAckInterval (long long *value*)

Sets the time in Milliseconds to schedule an automatic acknowledge of outstanding messages when optimize acknowledge is enabled. A value less than one means disable any scheduled tasks.

Parameters:

value The time interval to send scheduled acks.

6.22.2.46 void activemq::core::kernels::ActiveMQConsumerKernel::setPrefetchSize (int *prefetchSize*)

Sets the current prefetch size for the consumer as indicated by a Broker ConsumerControl command.

6.22.2.47 void activemq::core::kernels::ActiveMQConsumerKernel::setRedeliveryPolicy (RedeliveryPolicy * *policy*)

Sets the **RedeliveryPolicy** (p. 2527) this Consumer should use when a rollback is performed on a transacted Consumer. The Consumer takes ownership of the passed pointer. The Consumer's redelivery policy can never be null, a call to this method with a NULL pointer is ignored.

Parameters:

policy Pointer to a Redelivery Policy object that his Consumer will use.

6.22.2.48 void activemq::core::kernels::ActiveMQConsumerKernel::setSynchronizationRegistered (bool *value*)

Sets the **Synchronization** (p. 2952) Registered **state** (p. 70) of this consumer.

Parameters:

value - true if registered false otherwise.

6.22.2.49 void activemq::core::kernels::ActiveMQConsumerKernel::setTransactedIndividualAck (bool *value*)

Set if Message's in a transaction be acknowledged using the Individual Acknowledge mode.

Parameters:

value True if individual transacted acknowledge is enabled.

6.22.2.50 virtual void activemq::core::kernels::ActiveMQConsumerKernel::start () [virtual]

Starts the service.

Exceptions:

CMSException if an internal error occurs while starting.

Implements **cms::Startable** (p. 2836).

6.22.2.51 virtual void activemq::core::kernels::ActiveMQConsumerKernel::stop () [virtual]

Stops this service.

Exceptions:

CMSException - if an internal error occurs while stopping the Service.

Implements **cms::Stoppable** (p. 2903).

The documentation for this class was generated from the following file:

- src/main/activemq/core/kernels/**ActiveMQConsumerKernel.h**

6.23 activemq::library::ActiveMQCPP Class Reference

`#include <src/main/activemq/library/ActiveMQCPP.h>`

Public Member Functions

- virtual ~**ActiveMQCPP** ()

Static Public Member Functions

- static void **initializeLibrary** ()

  *Initialize the ActiveMQ-CPP Library constructs, this method will init all the internal Registry objects and initialize the Decaf **library** (p. 69).*

- static void **initializeLibrary** (int argc, char **argv)

  *Initialize the ActiveMQ-CPP Library constructs, this method will initialize all the internal Registry objects and initialize the Decaf **library** (p. 69).*

- static void **shutdownLibrary** ()

  Shutdown the ActiveMQ-CPP Library, freeing any resources that could not be freed up to this point.

Protected Member Functions

- **ActiveMQCPP** ()
- **ActiveMQCPP** (const **ActiveMQCPP** &)
- **ActiveMQCPP** & **operator**= (const **ActiveMQCPP** &)

6.23.1 Constructor & Destructor Documentation

6.23.1.1 activemq::library::ActiveMQCPP::ActiveMQCPP () [protected]

6.23.1.2 activemq::library::ActiveMQCPP::ActiveMQCPP (const ActiveMQCPP &) [protected]

6.23.1.3 virtual activemq::library::ActiveMQCPP::~ActiveMQCPP () [virtual]

6.23.2 Member Function Documentation

6.23.2.1 static void activemq::library::ActiveMQCPP::initializeLibrary (int *argc*, char ** *argv*) [static]

Initialize the ActiveMQ-CPP Library constructs, this method will initialize all the internal Registry objects and initialize the Decaf **library** (p. 69). This method takes the args passed to the main method of process for use is setting system properties and configuring the ActiveMQ-CPP Library.

Parameters:

argc - the count of arguments passed to this Process.

argv - the array of string arguments passed to this process.

Exceptions:

runtime_error if an error occurs while initializing this **library** (p. 69).

6.23.2.2 static void activemq::library::ActiveMQCPP::initializeLibrary () [static]

Initialize the ActiveMQ-CPP Library constructs, this method will init all the internal Registry objects and initialize the Decaf **library** (p. 69).

Exceptions:

runtime_error if an error occurs while initializing this **library** (p. 69).

6.23.2.3 ActiveMQCPP& activemq::library::ActiveMQCPP::operator= (const ActiveMQCPP &) [protected]

6.23.2.4 static void activemq::library::ActiveMQCPP::shutdownLibrary () [static]

Shutdown the ActiveMQ-CPP Library, freeing any resources that could not be freed up to this point. All the user created ActiveMQ-CPP objects and Decaf Library objects should have been destroyed by the time this method is called.

The documentation for this class was generated from the following file:

- src/main/activemq/library/**ActiveMQCPP.h**

6.24 activemq::commands::ActiveMQDestination Class Reference

`#include <src/main/activemq/commands/ActiveMQDestination.h>`Inheritance diagram for activemq::commands::ActiveMQDestination:

Data Structures

- struct **DestinationFilter**

Public Types

- typedef **decaf::lang::PointerComparator< ActiveMQDestination > COMPARATOR**

Public Member Functions

- **ActiveMQDestination** ()
- **ActiveMQDestination** (const std::string &**physicalName**)
- virtual ~**ActiveMQDestination** () throw ()
- virtual **ActiveMQDestination** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual bool **equals** (const **DataStructure** *value) const
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- int **getHashCode** () const
- virtual std::string **getPhysicalName** () const

  Fetch this destination's physical name.

- virtual void **setPhysicalName** (const std::string &**physicalName**)

  Set this destination's physical name.

- virtual bool **isAdvisory** () const
- virtual void **setAdvisory** (bool **advisory**)
- virtual bool **isExclusive** () const
- virtual void **setExclusive** (bool **exclusive**)
- virtual bool **isOrdered** () const
- virtual void **setOrdered** (bool **ordered**)
- virtual std::string **getOrderedTarget** () const

- virtual void **setOrderedTarget** (const std::string &**orderedTarget**)
- virtual **cms::Destination::DestinationType getDestinationType** () const =0

  Returns the Type of Destination that this object represents.

- std::string **getDestinationTypeAsString** () const

  Returns the type of Destination that this object represents as a string, the available string values are, "Queue", "Topic", "TempQueue" and "TempTopic".

- virtual bool **isTemporary** () const

  Returns true if a temporary Destination.

- virtual bool **isTopic** () const

  Returns true if a Topic Destination.

- virtual bool **isQueue** () const

  Returns true if a Queue Destination.

- virtual bool **isComposite** () const

  Returns true if this destination represents a collection of destinations; allowing a set of destinations to be published to or subscribed from in one CMS operation.

- **decaf::util::ArrayList< Pointer< ActiveMQDestination > > getCompositeDestinations** () const

  Returns an ArrayList containing all the ActiveMQDestinations that comprise this Composite destination, if this destination is composite, otherwise it returns an empty list.

- virtual bool **isWildcard** () const
- const **activemq::util::ActiveMQProperties** & **getOptions** () const
- virtual const **cms::Destination** * **getCMSDestination** () const
- **Pointer< ActiveMQDestination > createDestination** (const std::string &name) const

  Create a new Destination that's of the same type as this one but with the given destination name.

- virtual int **compareTo** (const **ActiveMQDestination** &value) const
- virtual bool **equals** (const **ActiveMQDestination** &value) const
- virtual bool **operator==** (const **ActiveMQDestination** &value) const
- virtual bool **operator<** (const **ActiveMQDestination** &value) const

Static Public Member Functions

- static std::string **createTemporaryName** (const std::string &clientId)

  Create a temporary name from the clientId.

- static std::string **getClientId** (const **ActiveMQDestination** *destination)

  From a temporary destination find the clientId of the Connection that created it.

- static **Pointer< ActiveMQDestination > createDestination** (int type, const std::string &name)

  Creates a Destination given the String Name to use and a Type.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQDESTINATION** = 0

Protected Attributes

- bool **exclusive**
- bool **ordered**
- bool **advisory**
- **decaf::util::ArrayList< Pointer< ActiveMQDestination > > compositeDestinations**
- std::string **orderedTarget**
- std::string **physicalName**
- **util::ActiveMQProperties options**
- int **hashCode**

Static Protected Attributes

- static const std::string **DEFAULT_ORDERED_TARGET**

  The default target for ordered destinations.

- static const std::string **TEMP_PREFIX**
- static const std::string **TEMP_POSTFIX**
- static const std::string **COMPOSITE_SEPARATOR**
- static const std::string **QUEUE_QUALIFIED_PREFIX**
- static const std::string **TOPIC_QUALIFIED_PREFIX**
- static const std::string **TEMP_QUEUE_QUALIFED_PREFIX**
- static const std::string **TEMP_TOPIC_QUALIFED_PREFIX**

6.24.1 Member Typedef Documentation

6.24.1.1 typedef decaf::lang::PointerComparator<ActiveMQDestination> activemq::commands::ActiveMQDestination::COMPARATOR

6.24.2 Constructor & Destructor Documentation

6.24.2.1 activemq::commands::ActiveMQDestination::ActiveMQDestination ()

6.24.2.2 activemq::commands::ActiveMQDestination::ActiveMQDestination (const std::string & *physicalName*)

6.24.2.3 virtual activemq::commands::ActiveMQDestination::~ActiveMQDestination () throw () [virtual]

6.24.3 Member Function Documentation

6.24.3.1 virtual ActiveMQDestination* activemq::commands::ActiveMQDestination::cloneDataStructure () const [inline, virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

Reimplemented in **activemq::commands::ActiveMQQueue** (p. 416), **activemq::commands::ActiveMQTempDestination** (p. 488), **activemq::commands::ActiveMQTempQueue** (p. 497), **activemq::commands::ActiveMQTempTopic** (p. 505), and **activemq::commands::ActiveMQTopic** (p. 522).

References NULL.

6.24.3.2 virtual int activemq::commands::ActiveMQDestination::compareTo (const ActiveMQDestination & *value*) const [virtual]

6.24.3.3 virtual void activemq::commands::ActiveMQDestination::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented in **activemq::commands::ActiveMQQueue** (p. 416), **activemq::commands::ActiveMQTempDestination** (p. 489), **activemq::commands::ActiveMQTempQueue** (p. 497), **activemq::commands::ActiveMQTempTopic** (p. 505), and **activemq::commands::ActiveMQTopic** (p. 522).

Referenced by activemq::commands::ActiveMQTempDestination::copyDataStructure().

6.24.3.4 static Pointer<ActiveMQDestination> activemq::commands::ActiveMQDestination::createDestination (int *type*, const std::string & *name*) [static]

Creates a Destination given the String Name to use and a Type.

Parameters:

type - The Type of Destination to Create

name - The Name to use in the creation of the Destination

Returns:

Pointer to a new **ActiveMQDestination** (p. 320) instance.

6.24.3.5 Pointer<ActiveMQDestination> activemq::commands::ActiveMQDestination::createDestination (const std::string & *name*) const [inline]

Create a new Destination that's of the same type as this one but with the given destination name.

Parameters:

name The name

Returns:

Pointer to a new **ActiveMQDestination** (p. 320).

6.24.3.6 static std::string activemq::commands::ActiveMQDestination::createTemporaryName (const std::string & *clientId*) [inline, static]

Create a temporary name from the clientId.

Parameters:

clientId

Returns:

6.24.3.7 virtual bool activemq::commands::ActiveMQDestination::equals (const ActiveMQDestination & *value*) const [virtual]

6.24.3.8 virtual bool activemq::commands::ActiveMQDestination::equals (const DataStructure * *value*) const [virtual]

Reimplemented in **activemq::commands::ActiveMQQueue** (p. 416), **activemq::commands::ActiveMQTempDestination** (p. 489), **activemq::commands::ActiveMQTempQueue** (p. 498), **activemq::commands::ActiveMQTempTopic** (p. 506), and **activemq::commands::ActiveMQTopic** (p. 522).

Referenced by activemq::commands::ActiveMQTempDestination::equals().

6.24.3.9 static std::string activemq::commands::ActiveMQDestination::getClientId (const ActiveMQDestination * *destination*) [static]

From a temporary destination find the clientId of the Connection that created it.

Parameters:

destination

Returns:

the clientId or null if not a temporary destination

6.24.3.10 virtual const cms::Destination* activemq::commands::ActiveMQDestination::getCMSDestination () const [inline, virtual]

Returns:

the **cms::Destination** (p. 1371) interface pointer that the objects that derive from this class implement.

Reimplemented in **activemq::commands::ActiveMQQueue** (p. 417), **activemq::commands::ActiveMQTempQueue** (p. 498), **activemq::commands::ActiveMQTempTopic** (p. 506), and **activemq::commands::ActiveMQTopic** (p. 523).

References NULL.

6.24.3.11 decaf::util::ArrayList< Pointer<ActiveMQDestination> > activemq::commands::ActiveMQDestination::getCompositeDestinations () const

Returns an ArrayList containing all the ActiveMQDestinations that comprise this Composite destination, if this destination is composite, otherwise it returns an empty list.

6.24.3.12 virtual unsigned char activemq::commands::ActiveMQDestination::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

Reimplemented in **activemq::commands::ActiveMQQueue** (p. 417), **activemq::commands::ActiveMQTempDestination** (p. 489), **activemq::commands::ActiveMQTempQueue** (p. 498), **activemq::commands::ActiveMQTempTopic** (p. 506), and **activemq::commands::ActiveMQTopic** (p. 523).

6.24.3.13 virtual cms::Destination::DestinationType activemq::commands::ActiveMQDestination::getDestinationType () const [pure virtual]

Returns the Type of Destination that this object represents.

Returns:

int type qualifier.

Implemented in **activemq::commands::ActiveMQQueue** (p. 417), **activemq::commands::ActiveMQTempQueue** (p. 499), **activemq::commands::ActiveMQTempTopic** (p. 507), and **activemq::commands::ActiveMQTopic** (p. 523).

6.24.3.14 std::string activemq::commands::ActiveMQDestination::getDestinationTypeAsString () const

Returns the type of Destination that this object represents as a string, the available string values are, "Queue", "Topic", "TempQueue" and "TempTopic".

Returns:

The string value that represents the type of this destination.

6.24.3.15 int activemq::commands::ActiveMQDestination::getHashCode () const [inline]

6.24.3.16 const activemq::util::ActiveMQProperties& activemq::commands::ActiveMQDestination::getOptions () const [inline]

Returns:

a reference (const) to the options properties for this Destination.

6.24.3.17 virtual std::string activemq::commands::ActiveMQDestination::getOrderedTarget () const [inline, virtual]

Returns:

Returns the orderedTarget.

6.24.3.18 virtual std::string activemq::commands::ActiveMQDestination::getPhysicalName () const [inline, virtual]

Fetch this destination's physical name.

Returns:

const string containing the name

6.24.3.19 virtual bool activemq::commands::ActiveMQDestination::isAdvisory () const [inline, virtual]

Returns:

Returns the advisory.

6.24.3.20 virtual bool activemq::commands::ActiveMQDestination::isComposite () const [inline, virtual]

Returns true if this destination represents a collection of destinations; allowing a set of destinations to be published to or subscribed from in one CMS operation.

Returns:

true if this destination represents a collection of child destinations.

6.24.3.21 virtual bool activemq::commands::ActiveMQDestination::isExclusive () const [inline, virtual]

Returns:

Returns the exclusive.

6.24.3.22 virtual bool activemq::commands::ActiveMQDestination::isOrdered () const [inline, virtual]

Returns:

Returns the ordered.

6.24.3.23 virtual bool activemq::commands::ActiveMQDestination::isQueue () const [inline, virtual]

Returns true if a Queue Destination.

Returns:

true/false

6.24.3.24 virtual bool activemq::commands::ActiveMQDestination::isTemporary () const [inline, virtual]

Returns true if a temporary Destination.

Returns:

true/false

References cms::Destination::TEMPORARY_QUEUE, and cms::Destination::TEMPORARY_-TOPIC.

6.24.3.25 virtual bool activemq::commands::ActiveMQDestination::isTopic () const [inline, virtual]

Returns true if a Topic Destination.

Returns:

true/false

References cms::Destination::TEMPORARY_TOPIC, and cms::Destination::TOPIC.

6.24.3.26 virtual bool activemq::commands::ActiveMQDestination::isWildcard () const [inline, virtual]

Returns:

true if the destination matches multiple possible destinations

6.24.3.27 virtual bool activemq::commands::ActiveMQDestination::operator< (const ActiveMQDestination & *value*) const [virtual]

6.24.3.28 virtual bool activemq::commands::ActiveMQDestination::operator== (const ActiveMQDestination & *value*) const [virtual]

6.24.3.29 virtual void activemq::commands::ActiveMQDestination::setAdvisory (bool *advisory*) [inline, virtual]

Parameters:

advisory The advisory to set.

6.24.3.30 virtual void activemq::commands::ActiveMQDestination::setExclusive (bool *exclusive*) [inline, virtual]

Parameters:

exclusive The exclusive to set.

6.24.3.31 virtual void activemq::commands::ActiveMQDestination::setOrdered (bool *ordered*) [inline, virtual]

Parameters:

ordered The ordered to set.

6.24.3.32 virtual void activemq::commands::ActiveMQDestination::setOrderedTarget (const std::string & *orderedTarget*) [inline, virtual]

Parameters:

orderedTarget The orderedTarget to set.

6.24.3.33 virtual void activemq::commands::ActiveMQDestination::setPhysicalName (const std::string & *physicalName*) [virtual]

Set this destination's physical name.

Returns:

const string containing the name

Reimplemented in **activemq::commands::ActiveMQTempDestination** (p. 490).

6.24.3.34 virtual std::string activemq::commands::ActiveMQDestination::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

Reimplemented in **activemq::commands::ActiveMQQueue** (p. 418), **activemq::commands::ActiveMQTempDestination** (p. 490), **activemq::commands::ActiveMQTempQueue** (p. 499), **activemq::commands::ActiveMQTempTopic** (p. 507), and **activemq::commands::ActiveMQTopic** (p. 524).

6.24.4 Field Documentation

6.24.4.1 bool activemq::commands::ActiveMQDestination::advisory [protected]

6.24.4.2 const std::string activemq::commands::ActiveMQDestination::COMPOSITE_SEPARATOR [static, protected]

6.24.4.3 decaf::util::ArrayList< Pointer<ActiveMQDestination> > activemq::commands::ActiveMQDestination::compositeDestinations [mutable, protected]

6.24.4.4 const std::string activemq::commands::ActiveMQDestination::DEFAULT_ORDERED_TARGET [static, protected]

The default target for ordered destinations.

6.24.4.5 bool activemq::commands::ActiveMQDestination::exclusive [protected]

6.24.4.6 int activemq::commands::ActiveMQDestination::hashCode [protected]

6.24.4.7 const unsigned char activemq::commands::ActiveMQDestination::ID_ACTIVEMQDESTINATION = 0 [static]

6.24.4.8 util::ActiveMQProperties activemq::commands::ActiveMQDestination::options [protected]

6.24.4.9 bool activemq::commands::ActiveMQDestination::ordered [protected]

6.24.4.10 std::string activemq::commands::ActiveMQDestination::orderedTarget [protected]

6.24.4.11 std::string activemq::commands::ActiveMQDestination::physicalName [protected]

6.24.4.12 const std::string activemq::commands::ActiveMQDestination::QUEUE_QUALIFIED_PREFIX [static, protected]

6.24.4.13 const std::string activemq::commands::ActiveMQDestination::TEMP_POSTFIX [static, protected]

6.24.4.14 const std::string activemq::commands::ActiveMQDestination::TEMP_PREFIX [static, protected]

6.24.4.15 const std::string activemq::commands::ActiveMQDestination::TEMP_QUEUE_QUALIFED_PREFIX [static, protected]

6.24.4.16 const std::string activemq::commands::ActiveMQDestination::TEMP_TOPIC_QUALIFED_PREFIX [static, protected]

6.24.4.17 const std::string activemq::commands::ActiveMQDestination::TOPIC_QUALIFIED_PREFIX [static, protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQDestination.h**

6.25 activemq::wireformat::openwire::marshal::generated::ActiveMQDes Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQDestinationMarshaller** (p. 331).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQDestinationMarshaller.`
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller:

Public Member Functions

- **ActiveMQDestinationMarshaller** ()
- virtual ~**ActiveMQDestinationMarshaller** ()
- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.25.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQDestinationMarshaller** (p. 331). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.25.2 Constructor & Destructor Documentation

6.25.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller::Acti () [inline]

6.25.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller::~Ac () [inline, virtual]

6.25.3 Member Function Documentation

6.25.3.1 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller::looseM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 424), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller** (p. 493), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 501), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 509), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 526).

6.25.3.2 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller::looseU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 425), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller** (p. 493), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 502), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 510), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 527).

6.25.3.3 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 425), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller** (p. 494), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 502), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 510), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 527).

6.25.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 425), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller** (p. 494), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 502), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 510), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 527).

6.25.3.5 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller::tightU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 426), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller** (p. 495), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 503), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 511), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 528).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQDestinationMarshaller.h**

6.26 activemq::exceptions::ActiveMQException Class Reference

`#include <src/main/activemq/exceptions/ActiveMQException.h>`Inheritance diagram for activemq::exceptions::ActiveMQException:

Public Member Functions

- **ActiveMQException** ()

  Default Constructor.

- **ActiveMQException** (const **ActiveMQException** &ex)

  Copy Constructor.

- **ActiveMQException** (const **decaf::lang::Exception** &ex)

  Copy Constructor.

- **ActiveMQException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **ActiveMQException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual ~**ActiveMQException** () throw ()
- virtual **ActiveMQException** * **clone** () const

  Clones this exception.

- virtual **cms::CMSException convertToCMSException** () const

  Converts this exception to a new CMSException.

6.26.1 Constructor & Destructor Documentation

6.26.1.1 activemq::exceptions::ActiveMQException::ActiveMQException ()

Default Constructor.

6.26.1.2 activemq::exceptions::ActiveMQException::ActiveMQException (const ActiveMQException & *ex*)

Copy Constructor.

Parameters:

ex The Exception whose internal data is copied into this instance.

6.26.1.3 activemq::exceptions::ActiveMQException::ActiveMQException (const decaf::lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex The Exception whose internal data is copied into this instance.

6.26.1.4 activemq::exceptions::ActiveMQException::ActiveMQException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs.

lineNumber The line number where the exception occurred.

msg The message to report.

... The list of primitives that are formatted into the message.

6.26.1.5 activemq::exceptions::ActiveMQException::ActiveMQException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.26.1.6 virtual activemq::exceptions::ActiveMQException::~ActiveMQException () throw () [virtual]

6.26.2 Member Function Documentation

6.26.2.1 virtual ActiveMQException* activemq::exceptions::ActiveMQException::clone () const [virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

Copy of this Exception object

Reimplemented from **decaf::lang::Exception** (p. 1447).

Reimplemented in **activemq::exceptions::BrokerException** (p. 708), and **activemq::exceptions::ConnectionFailedException** (p. 1113).

6.26.2.2 virtual cms::CMSException activemq::exceptions::ActiveMQException::convertToCMSException () const [virtual]

Converts this exception to a new CMSException.

Returns:

a CMSException with the data from this exception

The documentation for this class was generated from the following file:

- src/main/activemq/exceptions/**ActiveMQException.h**

6.27 activemq::commands::ActiveMQMapMessage Class Reference

`#include <src/main/activemq/commands/ActiveMQMapMessage.h>`Inheritance diagram for activemq::commands::ActiveMQMapMessage:

Public Member Functions

- **ActiveMQMapMessage** ()
- virtual ~**ActiveMQMapMessage** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual bool **isMarshalAware** () const

  Indicates that this command is aware of Marshaling, and needs to have its Marshaling methods invoked.

- virtual **ActiveMQMapMessage** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual void **beforeMarshal** (**wireformat::WireFormat** *wireFormat)

  Called before marshaling is started to prepare the object to be marshaled.

- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual void **clearBody** () throw (cms::CMSException)

  Clears out the body of the message.

- virtual **cms::MapMessage** * **clone** () const

  Clone this message exactly, returns a new instance that the caller is required to delete.

- virtual bool **isEmpty** () const

  *Returns true if there are no values stored in the **MapMessage** (p. 2011) body.*
  Returns:

  *true if the body of the **MapMessage** (p. 2011) contains no elements.*
  Exceptions:

  ***CMSException** (p. **973**) if the operation fails due to an internal error.*

- virtual std::vector< std::string > **getMapNames** () const

  *Returns an Enumeration of all the names in the **MapMessage** (p. 2011) object.*

Returns:

STL Vector of String values, each of which is the name of an item in the ***MapMessage*** *(p. 2011)*

Exceptions:

CMSException *(p. 973) - if the operation fails due to an internal error.*

- virtual bool **itemExists** (const std::string &name) const

Indicates whether an item exists in this ***MapMessage*** *(p. 2011) object.*

Parameters:

name *String name of the Object in question*

Returns:

boolean value indicating if the name is in the map

Exceptions:

CMSException *(p. 973) - if the operation fails due to an internal error.*

- virtual **cms::Message::ValueType getValueType** (const std::string &key) const

Returns the value type for the given key mapping.
The CMS provider should translate all internal type identifiers into the CMS Value types returning UNKNOWN_ TYPE for any specialized types not directly supported in the CMS API.

Parameters:

key *The string key used to look up the value type mapping.*

Returns:

The ValueType contained in the given mapping.

Exceptions:

CMSException *(p. 973) if no mapping exists that matches the requested key.*

- virtual bool **getBoolean** (const std::string &name) const

Returns the Boolean value of the Specified name.

Parameters:

name *Name of the value to fetch from the map*

Exceptions:

CMSException *(p. 973) - if the operation fails due to an internal error.*
MessageFormatException *(p. 2159) - if this type conversion is invalid.*

- virtual void **setBoolean** (const std::string &name, bool value)

Sets a boolean value with the specified name into the Map.

Parameters:

name *the name of the boolean*
value *the boolean value to set in the Map*

Exceptions:

CMSException *(p. 973) - if the operation fails due to an internal error.*
MessageNotWritableException *- if the* ***Message*** *(p. 2077) is in Read-only Mode.*

- virtual unsigned char **getByte** (const std::string &name) const

Returns the Byte value of the Specified name.

Parameters:

name *Name of the value to fetch from the map*

Exceptions:

CMSException (p. ***973***) - *if the operation fails due to an internal error.*
MessageFormatException (p. ***2159***) - *if this type conversion is invalid.*

- virtual void **setByte** (const std::string &name, unsigned char value)

  Sets a Byte value with the specified name into the Map.

  Parameters:

  name *the name of the Byte*
  value *the Byte value to set in the Map*

  Exceptions:

  CMSException (p. ***973***) - *if the operation fails due to an internal error.*
  MessageNotWriteableException (p. ***2177***) - *if the* ***Message*** (p. *2077*) *is in Read-only Mode.*

- virtual std::vector< unsigned char > **getBytes** (const std::string &name) const

  Returns the Bytes value of the Specified name.

  Parameters:

  name *Name of the value to fetch from the map*

  Exceptions:

  CMSException (p. ***973***) - *if the operation fails due to an internal error.*
  MessageFormatException (p. ***2159***) - *if this type conversion is invalid.*

- virtual void **setBytes** (const std::string &name, const std::vector< unsigned char > &value)

  Sets a Bytes value with the specified name into the Map.

  Parameters:

  name *The name of the Bytes*
  value *The Bytes value to set in the Map*

  Exceptions:

  CMSException (p. ***973***) - *if the operation fails due to an internal error.*
  MessageNotWriteableException (p. ***2177***) - *if the* ***Message*** (p. *2077*) *is in Read-only Mode.*

- virtual char **getChar** (const std::string &name) const

  Returns the Char value of the Specified name.

  Parameters:

  name *name of the value to fetch from the map*

  Exceptions:

  CMSException (p. ***973***) - *if the operation fails due to an internal error.*
  MessageFormatException (p. ***2159***) - *if this type conversion is invalid.*

- virtual void **setChar** (const std::string &name, char value)

  Sets a Char value with the specified name into the Map.

  Parameters:

  name *the name of the Char*
  value *the Char value to set in the Map*

  Exceptions:

  CMSException (p. ***973***) - *if the operation fails due to an internal error.*
  MessageNotWriteableException (p. ***2177***) - *if the* ***Message*** (p. *2077*) *is in Read-only Mode.*

- virtual double **getDouble** (const std::string &name) const

  Returns the Double value of the Specified name.

  Parameters:

  name *Name of the value to fetch from the map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageFormatException *(p. 2159) - if this type conversion is invalid.*

- virtual void **setDouble** (const std::string &name, double value)

  Sets a Double value with the specified name into the Map.

  Parameters:

  name *The name of the Double*
  value *The Double value to set in the Map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageNotWriteableException *(p. 2177) - if the* ***Message*** *(p. 2077) is in Read-only Mode.*

- virtual float **getFloat** (const std::string &name) const

  Returns the Float value of the Specified name.

  Parameters:

  name *Name of the value to fetch from the map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageFormatException *(p. 2159) - if this type conversion is invalid.*

- virtual void **setFloat** (const std::string &name, float value)

  Sets a Float value with the specified name into the Map.

  Parameters:

  name *The name of the Float*
  value *The Float value to set in the Map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageNotWriteableException *(p. 2177) - if the* ***Message*** *(p. 2077) is in Read-only Mode.*

- virtual int **getInt** (const std::string &name) const

  Returns the Int value of the Specified name.

  Parameters:

  name *Name of the value to fetch from the map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageFormatException *(p. 2159) - if this type conversion is invalid.*

- virtual void **setInt** (const std::string &name, int value)

  Sets a Int value with the specified name into the Map.

  Parameters:

  name *The name of the Int*
  value *The Int value to set in the Map*

Exceptions:

CMSException *(p. 973) - if the operation fails due to an internal error.*
MessageNotWriteableException *(p. 2177) - if the* ***Message*** *(p. 2077) is in Read-only Mode.*

- virtual long long **getLong** (const std::string &name) const

  Returns the Long value of the Specified name.

  Parameters:

  name *Name of the value to fetch from the map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageFormatException *(p. 2159) - if this type conversion is invalid.*

- virtual void **setLong** (const std::string &name, long long value)

  Sets a Long value with the specified name into the Map.

  Parameters:

  name *The name of the Long*
  value *The Long value to set in the Map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageNotWriteableException *(p. 2177) - if the* ***Message*** *(p. 2077) is in Read-only Mode.*

- virtual short **getShort** (const std::string &name) const

  Returns the Short value of the Specified name.

  Parameters:

  name *Name of the value to fetch from the map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageFormatException *(p. 2159) - if this type conversion is invalid.*

- virtual void **setShort** (const std::string &name, short value)

  Sets a Short value with the specified name into the Map.

  Parameters:

  name *The name of the Short*
  value *The Short value to set in the Map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageNotWriteableException *(p. 2177) - if the* ***Message*** *(p. 2077) is in Read-only Mode.*

- virtual std::string **getString** (const std::string &name) const

  Returns the String value of the Specified name.

  Parameters:

  name *Name of the value to fetch from the map*

  Exceptions:

  CMSException *(p. 973) - if the operation fails due to an internal error.*
  MessageFormatException *(p. 2159) - if this type conversion is invalid.*

- virtual void **setString** (const std::string &name, const std::string &value)

Sets a String value with the specified name into the Map.

Parameters:

name *The name of the String*
value *The String value to set in the Map*

Exceptions:

CMSException *(p. 973) - if the operation fails due to an internal error.*
MessageNotWriteableException *(p. 2177) - if the* ***Message*** *(p. 2077) is in Read-only Mode.*

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQMAPMESSAGE** = 25

Protected Member Functions

- **util::PrimitiveMap** & **getMap** ()

  Fetches a reference to this objects PrimitiveMap, if one needs to be created or unmarshaled, this will perform the correct steps.

- const **util::PrimitiveMap** & **getMap** () const
- virtual void **checkMapIsUnmarshalled** () const

  Performs the unmarshal on the Map if needed, otherwise just returns.

6.27.1 Constructor & Destructor Documentation

6.27.1.1 activemq::commands::ActiveMQMapMessage::ActiveMQMapMessage ()

6.27.1.2 virtual activemq::commands::ActiveMQMapMessage::~ActiveMQMapMessage () throw () [virtual]

6.27.2 Member Function Documentation

6.27.2.1 virtual void activemq::commands::ActiveMQMapMessage::beforeMarshal (wireformat::WireFormat * *wireFormat*) [virtual]

Called before marshaling is started to prepare the object to be marshaled.

Parameters:

wireFormat The **wireformat** (p. 81) object to control marshaling

Exceptions:

IOException if an I/O error occurs.

Implements **activemq::wireformat::MarshalAware** (p. 2023).

6.27.2.2 virtual void activemq::commands::ActiveMQMapMessage::checkMapIsUnmarshalled () const [protected, virtual]

Performs the unmarshal on the Map if needed, otherwise just returns.

Exceptions:

NullPointerException if the internal Map is Null.

6.27.2.3 virtual void activemq::commands::ActiveMQMapMessage::clearBody () throw (cms::CMSException) [virtual]

Clears out the body of the message. This does not clear the headers or properties.

Exceptions:

CMSException - if an internal error occurs.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 371).

6.27.2.4 virtual cms::MapMessage* activemq::commands::ActiveMQMapMessage::clone () const [inline, virtual]

Clone this message exactly, returns a new instance that the caller is required to delete.

Returns:

new copy of this message

Implements **cms::Message** (p. 2083).

References activemq::commands::Message::setReadOnlyBody(), and activemq::commands::Message::setReadOnlyProperties().

6.27.2.5 virtual ActiveMQMapMessage* activemq::commands::ActiveMQMapMessage::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Message** (p. 2063).

6.27.2.6 virtual void activemq::commands::ActiveMQMapMessage::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Message** (p. 2064).

6.27.2.7 virtual bool activemq::commands::ActiveMQMapMessage::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 372).

6.27.2.8 virtual bool activemq::commands::ActiveMQMapMessage::getBoolean (const std::string & *name*) const [virtual]

Returns the Boolean value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2013).

6.27.2.9 virtual unsigned char activemq::commands::ActiveMQMapMessage::getByte (const std::string & *name*) const [virtual]

Returns the Byte value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2013).

6.27.2.10 virtual std::vector<unsigned char> activemq::commands::ActiveMQMapMessage::getBytes (const std::string & *name*) const [virtual]

Returns the Bytes value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2014).

6.27.2.11 virtual char activemq::commands::ActiveMQMapMessage::getChar (const std::string & *name*) const [virtual]

Returns the Char value of the Specified name.

Parameters:

name name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2014).

6.27.2.12 virtual unsigned char activemq::commands::ActiveMQMapMessage::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Message** (p. 2066).

6.27.2.13 virtual double activemq::commands::ActiveMQMapMessage::getDouble (const std::string & *name*) const [virtual]

Returns the Double value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2014).

6.27.2.14 virtual float activemq::commands::ActiveMQMapMessage::getFloat (const std::string & *name*) const [virtual]

Returns the Float value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2015).

6.27.2.15 virtual int activemq::commands::ActiveMQMapMessage::getInt (const std::string & *name*) const [virtual]

Returns the Int value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2015).

6.27.2.16 virtual long long activemq::commands::ActiveMQMapMessage::getLong (const std::string & *name*) const [virtual]

Returns the Long value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2015).

6.27.2.17 const util::PrimitiveMap& activemq::commands::ActiveMQMapMessage::getMap () const [protected]

6.27.2.18 util::PrimitiveMap& activemq::commands::ActiveMQMapMessage::getMap () [protected]

Fetches a reference to this objects PrimitiveMap, if one needs to be created or unmarshaled, this will perform the correct steps.

Returns:

reference to a PrimtiveMap;

Exceptions:

NullPointerException if the internal Map is Null.

6.27.2.19 virtual std::vector< std::string > activemq::commands::ActiveMQMapMessage::getMapNames () const [virtual]

Returns an Enumeration of all the names in the **MapMessage** (p. 2011) object.

Returns:

STL Vector of String values, each of which is the name of an item in the **MapMessage** (p. 2011)

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

Implements **cms::MapMessage** (p. 2015).

6.27.2.20 virtual short activemq::commands::ActiveMQMapMessage::getShort (const std::string & *name*) const [virtual]

Returns the Short value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2016).

6.27.2.21 virtual std::string activemq::commands::ActiveMQMapMessage::getString (const std::string & *name*) const [virtual]

Returns the String value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implements **cms::MapMessage** (p. 2016).

6.27.2.22 virtual cms::Message::ValueType activemq::commands::ActiveMQMapMessage::getValueType (const std::string & *key*) const [virtual]

Returns the value type for the given key mapping.

The CMS provider should translate all internal type identifiers into the CMS Value types returning UNKNOWN_TYPE for any specialized types not directly supported in the CMS API.

Parameters:

key The string key used to look up the value type mapping.

Returns:

The ValueType contained in the given mapping.

Exceptions:

CMSException (p. ***973***) if no mapping exists that matches the requested key.

Implements **cms::MapMessage** (p. 2016).

6.27.2.23 virtual bool activemq::commands::ActiveMQMapMessage::isEmpty () const [virtual]

Returns true if there are no values stored in the **MapMessage** (p. 2011) body.

Returns:

true if the body of the **MapMessage** (p. 2011) contains no elements.

Exceptions:

CMSException (p. ***973***) if the operation fails due to an internal error.

Implements **cms::MapMessage** (p. 2017).

6.27.2.24 virtual bool activemq::commands::ActiveMQMapMessage::isMarshalAware () const [inline, virtual]

Indicates that this command is aware of Marshaling, and needs to have its Marshaling methods invoked.

Returns:

boolean indicating desire to be in marshaling stages

Reimplemented from **activemq::commands::Message** (p. 2069).

6.27.2.25 virtual bool activemq::commands::ActiveMQMapMessage::itemExists (const std::string & *name*) const [virtual]

Indicates whether an item exists in this **MapMessage** (p. 2011) object.

Parameters:

name String name of the Object in question

Returns:

boolean value indicating if the name is in the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

Implements **cms::MapMessage** (p. 2017).

6.27.2.26 virtual void activemq::commands::ActiveMQMapMessage::setBoolean (const std::string & *name*, bool *value*) [virtual]

Sets a boolean value with the specified name into the Map.

Parameters:

name the name of the boolean

value the boolean value to set in the Map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageNotWritableException - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2017).

6.27.2.27 virtual void activemq::commands::ActiveMQMapMessage::setByte (const std::string & *name*, unsigned char *value*) [virtual]

Sets a Byte value with the specified name into the Map.

Parameters:

name the name of the Byte

value the Byte value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2018).

6.27.2.28 virtual void activemq::commands::ActiveMQMapMessage::setBytes (const std::string & *name*, const std::vector< unsigned char > & *value*) [virtual]

Sets a Bytes value with the specified name into the Map.

Parameters:

name The name of the Bytes

value The Bytes value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2018).

6.27.2.29 virtual void activemq::commands::ActiveMQMapMessage::setChar (const std::string & *name*, char *value*) [virtual]

Sets a Char value with the specified name into the Map.

Parameters:

name the name of the Char

value the Char value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2018).

6.27.2.30 virtual void activemq::commands::ActiveMQMapMessage::setDouble (const std::string & *name*, double *value*) [virtual]

Sets a Double value with the specified name into the Map.

Parameters:

name The name of the Double

value The Double value to set in the Map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageNotWriteableException (p. ***2177***) - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2019).

6.27.2.31 virtual void activemq::commands::ActiveMQMapMessage::setFloat (const std::string & *name*, float *value*) [virtual]

Sets a Float value with the specified name into the Map.

Parameters:

name The name of the Float

value The Float value to set in the Map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageNotWriteableException (p. ***2177***) - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2019).

6.27.2.32 virtual void activemq::commands::ActiveMQMapMessage::setInt (const std::string & *name*, int *value*) [virtual]

Sets a Int value with the specified name into the Map.

Parameters:

name The name of the Int

value The Int value to set in the Map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageNotWriteableException (p. ***2177***) - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2019).

6.27.2.33 virtual void activemq::commands::ActiveMQMapMessage::setLong (const std::string & *name*, long long *value*) [virtual]

Sets a Long value with the specified name into the Map.

Parameters:

name The name of the Long

value The Long value to set in the Map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageNotWriteableException (p. ***2177***) - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2020).

6.27.2.34 virtual void activemq::commands::ActiveMQMapMessage::setShort (const std::string & *name*, short *value*) [virtual]

Sets a Short value with the specified name into the Map.

Parameters:

name The name of the Short

value The Short value to set in the Map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageNotWriteableException (p. ***2177***) - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2020).

6.27.2.35 virtual void activemq::commands::ActiveMQMapMessage::setString (const std::string & *name*, const std::string & *value*) [virtual]

Sets a String value with the specified name into the Map.

Parameters:

name The name of the String

value The String value to set in the Map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageNotWriteableException (p. ***2177***) - if the **Message** (p. 2077) is in Read-only Mode.

Implements **cms::MapMessage** (p. 2020).

6.27.2.36 virtual std::string activemq::commands::ActiveMQMapMessage::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Message** (p. 2073).

6.27.3 Field Documentation

6.27.3.1 const unsigned char activemq::commands::ActiveMQMapMessage::ID_ACTIVEMQMAPMESSAGE = 25 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQMapMessage.h**

6.28 activemq::wireformat::openwire::marshal::generated::ActiveMQMa Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQMapMessageMarshaller** (p. 355).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQMapMessageMarshaller.h`
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller:

Public Member Functions

- **ActiveMQMapMessageMarshaller** ()
- virtual ~**ActiveMQMapMessageMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.28.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQMapMessageMarshaller** (p. 355). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.28.2 Constructor & Destructor Documentation

6.28.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller::Ac
() [inline]

6.28.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller::~A
() [inline, virtual]

6.28.3 Member Function Documentation

6.28.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller::creat
() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.28.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller::getD
() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.28.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller::loose
(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.28.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller::loose (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.28.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller::tight (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.28.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller::tight (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.28.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller::tight

(OpenWireFormat ∗ ***format*****, commands::DataStructure** ∗ ***command*****, decaf::io::DataInputStream** ∗ ***dis*****, utils::BooleanStream** ∗ ***bs*****)** `[virtual]`

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2174).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQMapMessageMarshaller.h**

6.29 activemq::commands::ActiveMQMessage Class Reference

`#include <src/main/activemq/commands/ActiveMQMessage.h>`Inheritance diagram for activemq::commands::ActiveMQMessage:

Public Member Functions

- **ActiveMQMessage** ()
- virtual ~**ActiveMQMessage** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual **ActiveMQMessage** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual **cms::Message** * **clone** () const

  Clone this message exactly, returns a new instance that the caller is required to delete.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQMESSAGE** = 23

6.29.1 Constructor & Destructor Documentation

6.29.1.1 activemq::commands::ActiveMQMessage::ActiveMQMessage ()

6.29.1.2 virtual activemq::commands::ActiveMQMessage::~ActiveMQMessage () throw () [inline, virtual]

6.29.2 Member Function Documentation

6.29.2.1 virtual cms::Message* activemq::commands::ActiveMQMessage::clone () const [inline, virtual]

Clone this message exactly, returns a new instance that the caller is required to delete.

Returns:

new copy of this message

Implements **cms::Message** (p. 2083).

References activemq::commands::Message::setReadOnlyBody(), and activemq::commands::Message::setReadOnlyProperties().

6.29.2.2 virtual ActiveMQMessage* activemq::commands::ActiveMQMessage::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Message** (p. 2063).

6.29.2.3 virtual void activemq::commands::ActiveMQMessage::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Message** (p. 2064).

6.29.2.4 virtual bool activemq::commands::ActiveMQMessage::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 372).

6.29.2.5 virtual unsigned char activemq::commands::ActiveMQMessage::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Message** (p. 2066).

6.29.2.6 virtual std::string activemq::commands::ActiveMQMessage::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Message** (p. 2073).

6.29.3 Field Documentation

6.29.3.1 const unsigned char activemq::commands::ActiveMQMessage::ID_ACTIVEMQMESSAGE = 23 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQMessage.h**

6.30 activemq::core::ActiveMQMessageAudit Class Reference

`#include <src/main/activemq/core/ActiveMQMessageAudit.h>`

Public Member Functions

- **ActiveMQMessageAudit** ()

  Default Constructor windowSize = 2048, maximumNumberOfProducersToTrack = 64.

- **ActiveMQMessageAudit** (int auditDepth, int maximumNumberOfProducersToTrack)

  Construct a MessageAudit.

- **~ActiveMQMessageAudit** ()
- int **getAuditDepth** () const

  Gets the currently configured Audit Depth.

- void **setAuditDepth** (int value)

  Sets a new Audit Depth value.

- int **getMaximumNumberOfProducersToTrack** () const
- void **getMaximumNumberOfProducersToTrack** (int value)

  Sets the number of producers to track.

- bool **isDuplicate** (const std::string &msgId) const

  checks whether this messageId has been seen before and adds this messageId to the list

- bool **isDuplicate** (**decaf::lang::Pointer< commands::MessageId >** msgId) const

  Checks if this messageId has been seen before.

- void **rollback** (const std::string &msgId)

  Marks this message as being received.

- void **rollback** (**decaf::lang::Pointer< commands::MessageId >** msgId)

  Marks this message as being received.

- bool **isInOrder** (const std::string &msgId) const

  Check the MessageId is in order.

- bool **isInOrder** (**decaf::lang::Pointer< commands::MessageId >** msgId) const

  Check the MessageId is in order.

- long long **getLastSeqId** (**decaf::lang::Pointer< commands::ProducerId >** id) const
- void **clear** ()

  Clears this Audit.

Static Public Attributes

- static const int **DEFAULT_WINDOW_SIZE**
- static const int **MAXIMUM_PRODUCER_COUNT**

6.30.1 Constructor & Destructor Documentation

6.30.1.1 activemq::core::ActiveMQMessageAudit::ActiveMQMessageAudit ()

Default Constructor windowSize = 2048, maximumNumberOfProducersToTrack = 64.

6.30.1.2 activemq::core::ActiveMQMessageAudit::ActiveMQMessageAudit (int *auditDepth*, int *maximumNumberOfProducersToTrack*)

Construct a MessageAudit.

Parameters:

auditDepth The range of ids to track.

maximumNumberOfProducersToTrack The number of producers expected in the system

6.30.1.3 activemq::core::ActiveMQMessageAudit::~ActiveMQMessageAudit ()

6.30.2 Member Function Documentation

6.30.2.1 void activemq::core::ActiveMQMessageAudit::clear ()

Clears this Audit.

6.30.2.2 int activemq::core::ActiveMQMessageAudit::getAuditDepth () const

Gets the currently configured Audit Depth.

Returns:

the current audit depth setting

6.30.2.3 long long activemq::core::ActiveMQMessageAudit::getLastSeqId (decaf::lang::Pointer< commands::ProducerId > *id*) const

Returns:

the last sequence Id that we've audited for the given producer.

6.30.2.4 void activemq::core::ActiveMQMessageAudit::getMaximumNumberOfProducersToTrack (int *value*)

Sets the number of producers to track.

Parameters:

value The number of producers expected in the system

6.30.2.5 int activemq::core::ActiveMQMessageAudit::getMaximumNumberOfProducersToTrack () const

Returns:

the current number of producers that will be tracked.

6.30.2.6 bool activemq::core::ActiveMQMessageAudit::isDuplicate (decaf::lang::Pointer< commands::MessageId > *msgId*) const

Checks if this messageId has been seen before.

Parameters:

msgId The target MessageId to check.

Returns:

true if the message is a duplicate

6.30.2.7 bool activemq::core::ActiveMQMessageAudit::isDuplicate (const std::string & *msgId*) const

checks whether this messageId has been seen before and adds this messageId to the list

Parameters:

msgId The string value Message Id.

Returns:

true if the message is a duplicate.

6.30.2.8 bool activemq::core::ActiveMQMessageAudit::isInOrder (decaf::lang::Pointer< commands::MessageId > *msgId*) const

Check the MessageId is in order.

Parameters:

msgId The target MessageId to check.

Returns:

true if the MessageId is in order.

6.30.2.9 bool activemq::core::ActiveMQMessageAudit::isInOrder (const std::string & *msgId*) const

Check the MessageId is in order.

Parameters:

msgId The string value Message Id.

Returns:

true if the MessageId is in order.

6.30.2.10 void activemq::core::ActiveMQMessageAudit::rollback (decaf::lang::Pointer< commands::MessageId > *msgId*)

Marks this message as being received.

Parameters:

msgId The target MessageId to check.

6.30.2.11 void activemq::core::ActiveMQMessageAudit::rollback (const std::string & *msgId*)

Marks this message as being received.

Parameters:

msgId The string value Message Id.

6.30.2.12 void activemq::core::ActiveMQMessageAudit::setAuditDepth (int *value*)

Sets a new Audit Depth value.

Parameters:

value The range of ids to track.

6.30.3 Field Documentation

6.30.3.1 const int activemq::core::ActiveMQMessageAudit::DEFAULT_WINDOW_SIZE [static]

6.30.3.2 const int activemq::core::ActiveMQMessageAudit::MAXIMUM_PRODUCER_COUNT [static]

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQMessageAudit.h**

6.31 activemq::wireformat::openwire::marshal::generated::ActiveMQMes Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQMessageMarshaller** (p. 366).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQMessageMarshaller.h>`In diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller:

Public Member Functions

- **ActiveMQMessageMarshaller** ()
- virtual ~**ActiveMQMessageMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.31.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQMessageMarshaller** (p. 366). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.31.2 Constructor & Destructor Documentation

6.31.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller::ActiveM () [inline]

6.31.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller::~Active () [inline, virtual]

6.31.3 Member Function Documentation

6.31.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller::createObj () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.31.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller::getDataSt () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.31.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller::looseMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.31.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller::looseUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.31.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.31.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.31.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller::tightUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2174).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQMessageMarshaller.h**

6.32 activemq::commands::ActiveMQMessageTemplate< T > Class Template Reference

`#include <src/main/activemq/commands/ActiveMQMessageTemplate.h>`Inheritance diagram for activemq::commands::ActiveMQMessageTemplate< T >:

Public Member Functions

- **ActiveMQMessageTemplate** ()
- virtual ~**ActiveMQMessageTemplate** () throw ()
- virtual void **acknowledge** () const
- virtual void **onSend** ()

  *Allows derived **Message** (p. 2059) classes to perform tasks before a message is sent.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual void **clearBody** ()
- virtual void **clearProperties** ()
- virtual std::vector< std::string > **getPropertyNames** () const
- virtual bool **propertyExists** (const std::string &name) const
- virtual **cms::Message::ValueType** **getPropertyValueType** (const std::string &name) const
- virtual bool **getBooleanProperty** (const std::string &name) const
- virtual unsigned char **getByteProperty** (const std::string &name) const
- virtual double **getDoubleProperty** (const std::string &name) const
- virtual float **getFloatProperty** (const std::string &name) const
- virtual int **getIntProperty** (const std::string &name) const
- virtual long long **getLongProperty** (const std::string &name) const
- virtual short **getShortProperty** (const std::string &name) const
- virtual std::string **getStringProperty** (const std::string &name) const
- virtual void **setBooleanProperty** (const std::string &name, bool value)
- virtual void **setByteProperty** (const std::string &name, unsigned char value)
- virtual void **setDoubleProperty** (const std::string &name, double value)
- virtual void **setFloatProperty** (const std::string &name, float value)
- virtual void **setIntProperty** (const std::string &name, int value)
- virtual void **setLongProperty** (const std::string &name, long long value)
- virtual void **setShortProperty** (const std::string &name, short value)
- virtual void **setStringProperty** (const std::string &name, const std::string &value)
- virtual std::string **getCMSCorrelationID** () const
- virtual void **setCMSCorrelationID** (const std::string &**correlationId**)
- virtual int **getCMSDeliveryMode** () const
- virtual void **setCMSDeliveryMode** (int mode)
- virtual const **cms::Destination** * **getCMSDestination** () const
- virtual void **setCMSDestination** (const **cms::Destination** *destination)
- virtual long long **getCMSExpiration** () const
- virtual void **setCMSExpiration** (long long expireTime)

- virtual std::string **getCMSMessageID** () const
- virtual void **setCMSMessageID** (const std::string &value)
- virtual int **getCMSPriority** () const
- virtual void **setCMSPriority** (int **priority**)
- virtual bool **getCMSRedelivered** () const
- virtual void **setCMSRedelivered** (bool redelivered AMQCPP_UNUSED)
- virtual const **cms::Destination** * **getCMSReplyTo** () const
- virtual void **setCMSReplyTo** (const **cms::Destination** *__destination__)
- virtual long long **getCMSTimestamp** () const
- virtual void **setCMSTimestamp** (long long timeStamp)
- virtual std::string **getCMSType** () const
- virtual void **setCMSType** (const std::string &__type__)

Protected Member Functions

- void **failIfWriteOnlyBody** () const
- void **failIfReadOnlyBody** () const
- void **failIfReadOnlyProperties** () const

template<typename T> class activemq::commands::ActiveMQMessageTemplate< T >

6.32.1 Constructor & Destructor Documentation

6.32.1.1 template<typename T> activemq::commands::ActiveMQMessageTemplate< T >::ActiveMQMessageTemplate () [inline]

6.32.1.2 template<typename T> virtual activemq::commands::ActiveMQMessageTemplate< T >::~ActiveMQMessageTemplate () throw () [inline, virtual]

6.32.2 Member Function Documentation

6.32.2.1 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::acknowledge () const [inline, virtual]

6.32.2.2 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::clearBody () [inline, virtual]

Reimplemented in **activemq::commands::ActiveMQBytesMessage** (p. 215), **activemq::commands::ActiveMQMapMessage** (p. 344), **activemq::commands::ActiveMQStreamMessage** (p. 471), and **activemq::commands::ActiveMQTextMessage** (p. 513).

6.32.2.3 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::clearProperties () [inline, virtual]

6.32.2.4 template<typename T> virtual bool activemq::commands::ActiveMQMessageTemplate< T >::equals (const DataStructure * *value*) const [inline, virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::Message** (p. 2064).

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 206), **activemq::commands::ActiveMQBytesMessage** (p. 216), **activemq::commands::ActiveMQMapMessage** (p. 345), **activemq::commands::ActiveMQMessage** (p. 360), **activemq::commands::ActiveMQObjectMessage** (p. 380), **activemq::commands::ActiveMQStreamMessage** (p. 472), and **activemq::commands::ActiveMQTextMessage** (p. 514).

6.32.2.5 template<typename T> void activemq::commands::ActiveMQMessageTemplate< T >::failIfReadOnlyBody () const [inline, protected]

6.32.2.6 template<typename T> void activemq::commands::ActiveMQMessageTemplate< T >::failIfReadOnlyProperties () const [inline, protected]

6.32.2.7 template<typename T> void activemq::commands::ActiveMQMessageTemplate< T >::failIfWriteOnlyBody () const [inline, protected]

6.32.2.8 template<typename T> virtual bool activemq::commands::ActiveMQMessageTemplate< T >::getBooleanProperty (const std::string & *name*) const [inline, virtual]

6.32.2.9 template<typename T> virtual unsigned char activemq::commands::ActiveMQMessageTemplate< T >::getByteProperty (const std::string & *name*) const [inline, virtual]

6.32.2.10 template<typename T> virtual std::string activemq::commands::ActiveMQMessageTemplate< T >::getCMSCorrelationID () const [inline, virtual]

6.32.2.11 template<typename T> virtual int activemq::commands::ActiveMQMessageTemplate< T >::getCMSDeliveryMode () const [inline, virtual]

6.32.2.12 template<typename T> virtual const cms::Destination* activemq::commands::ActiveMQMessageTemplate< T >::getCMSDestination () const [inline, virtual]

6.32.2.13 template<typename T> virtual long long activemq::commands::ActiveMQMessageTemplate< T >::getCMSExpiration () const [inline, virtual]

6.32.2.14 template<typename T> virtual std::string activemq::commands::ActiveMQMessageTemplate< T >::getCMSMessageID () const [inline, virtual]

6.32.2.15 template<typename T> virtual int activemq::commands::ActiveMQMessageTemplate< T >::getCMSPriority () const [inline, virtual]

6.32.2.16 template<typename T> virtual bool activemq::commands::ActiveMQMessageTemplate< T >::getCMSRedelivered () const [inline, virtual]

6.32.2.17 template<typename T> virtual const cms::Destination* activemq::commands::ActiveMQMessageTemplate< T >::getCMSReplyTo () const [inline, virtual]

6.32.2.18 template<typename T> virtual long long activemq::commands::ActiveMQMessageTemplate< T >::getCMSTimestamp () const [inline, virtual]

6.32.2.19 template<typename T> virtual std::string activemq::commands::ActiveMQMessageTemplate< T >::getCMSType () const [inline, virtual]

6.32.2.20 template<typename T> virtual double

Reimplemented from **activemq::commands::Message** (p. 2070).

Reimplemented in **activemq::commands::ActiveMQBytesMessage** (p. 217), and **activemq::commands::ActiveMQStreamMessage** (p. 473).

6.32.2.29 template<typename T> virtual bool activemq::commands::ActiveMQMessageTemplate< T >::propertyExists (const std::string & *name*) const [inline, virtual]

6.32.2.30 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setBooleanProperty (const std::string & *name*, bool *value*) [inline, virtual]

6.32.2.31 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setByteProperty (const std::string & *name*, unsigned char *value*) [inline, virtual]

6.32.2.32 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSCorrelationID (const std::string & *correlationId*) [inline, virtual]

6.32.2.33 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSDeliveryMode (int *mode*) [inline, virtual]

6.32.2.34 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSDestination (const cms::Destination * *destination*) [inline, virtual]

6.32.2.35 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSExpiration (long long *expireTime*) [inline, virtual]

6.32.2.36 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSMessageID (const std::string & *value*) [inline, virtual]

6.32.2.37 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSPriority (int *priority*) [inline, virtual]

6.32.2.38 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSRedelivered (bool redelivered *AMQCPP_UNUSED*) [inline, virtual]

6.32.2.39 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSReplyTo (const cms::Destination * *destination*) [inline, virtual]

6.32.2.40 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSTimestamp (long long *timeStamp*) [inline, virtual]

6.32.2.41 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setCMSType (const std::string & *type*) [inline, virtual]

6.32.2.42 template<typename T> virtual void activemq::commands::ActiveMQMessageTemplate< T >::setDoubleProperty (const std::string & *name*, double *value*) [inline, virtual]

- src/main/activemq/commands/**ActiveMQMessageTemplate.h**

6.33 activemq::util::ActiveMQMessageTransformation Class Reference

`#include <src/main/activemq/util/ActiveMQMessageTransformation.h>`

Public Member Functions

- virtual ~**ActiveMQMessageTransformation** ()

Static Public Member Functions

- static bool **transformDestination** (const **cms::Destination** *destination, const **commands::ActiveMQDestination** **amqDestination)

  Creates a fast shallow copy of the current ActiveMQDestination or creates a whole new destination instance from an available CMS destination from another provider.

- static bool **transformMessage** (**cms::Message** *message, **core::ActiveMQConnection** *connection, **commands::Message** **amqMessage)

  Creates a fast shallow copy of the current ActiveMQMessage or creates a whole new message instance from an available CMS message from another provider.

- static void **copyProperties** (const **cms::Message** *fromMessage, **cms::Message** *toMessage)

  Copies the standard CMS and user defined properties from the given message to the specified message.

6.33.1 Constructor & Destructor Documentation

6.33.1.1 virtual activemq::util::ActiveMQMessageTransformation::~ActiveMQMessageTransformation () `[virtual]`

6.33.2 Member Function Documentation

6.33.2.1 static void activemq::util::ActiveMQMessageTransformation::copyProperties (const cms::Message * *fromMessage*, cms::Message * *toMessage*) `[static]`

Copies the standard CMS and user defined properties from the given message to the specified message.

Parameters:

fromMessage The message to take the properties from.

toMessage The message to add the properties to.

Exceptions:

CMSException if an error occurs during the copy.

6.33.2.2 static bool activemq::util::ActiveMQMessageTransformation::transformDestination (const cms::Destination * *destination*, const commands::ActiveMQDestination ** *amqDestination*) [static]

Creates a fast shallow copy of the current ActiveMQDestination or creates a whole new destination instance from an available CMS destination from another provider. This method will return true if the passed CMS Destination was cloned and a new Destination object created or false if the input Destination was already an ActiveMQ destination. The should use the return value as a hint to determine if it needs to delete the amqDestinatio object or not.

Parameters:

destination Destination to be converted into ActiveMQ's implementation.

amqDestination Pointer to a pointer where the casted or cloned AMQ destination is stored.

Returns:

true if the amqDestination is a new instance and not just a cast of the input destination.

Exceptions:

CMSException if an error occurs

6.33.2.3 static bool activemq::util::ActiveMQMessageTransformation::transformMessage (cms::Message * *message*, core::ActiveMQConnection * *connection*, commands::Message ** *amqMessage*) [static]

Creates a fast shallow copy of the current ActiveMQMessage or creates a whole new message instance from an available CMS message from another provider. This method will return true if the passed CMS Message was cloned and a new ActiveMQMessage object created or false if the input Message was already an ActiveMQMessage instance. The caller should use the return value as a hint to determine if it needs to delete the resulting ActiveMQMessage object or not.

Parameters:

message CMS Message to be converted into ActiveMQ's implementation.

amqMessage Pointer to a pointer where the casted or cloned AMQ message is stored.

Returns:

true if the amqMessage is a new instance and not just a cast of the input message.

Exceptions:

CMSException if an error occurs

The documentation for this class was generated from the following file:

- src/main/activemq/util/**ActiveMQMessageTransformation.h**

6.34 activemq::commands::ActiveMQObjectMessage Class Reference

`#include <src/main/activemq/commands/ActiveMQObjectMessage.h>`Inheritance diagram for activemq::commands::ActiveMQObjectMessage:

Public Member Functions

- **ActiveMQObjectMessage** ()
- virtual ~**ActiveMQObjectMessage** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQObjectMessage** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual **cms::Message** * **clone** () const

  Clone this message exactly, returns a new instance that the caller is required to delete.

- virtual void **setObjectBytes** (const std::vector< unsigned char > &bytes)

  Sets the payload bytes the represent the Object being transmitted.

- virtual std::vector< unsigned char > **getObjectBytes** () const

  Returns the byte array containing the serialized form of the transmitted Object.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQOBJECTMESSAGE** = 26

6.34.1 Constructor & Destructor Documentation

6.34.1.1 activemq::commands::ActiveMQObjectMessage::ActiveMQObjectMessage ()

6.34.1.2 virtual activemq::commands::ActiveMQObjectMessage::~ActiveMQObjectMessage () throw () [inline, virtual]

6.34.2 Member Function Documentation

6.34.2.1 virtual cms::Message* activemq::commands::ActiveMQObjectMessage::clone () const [inline, virtual]

Clone this message exactly, returns a new instance that the caller is required to delete.

Returns:

new copy of this message

Implements **cms::Message** (p. 2083).

References activemq::commands::Message::setReadOnlyBody(), and activemq::commands::Message::setReadOnlyProperties().

6.34.2.2 virtual ActiveMQObjectMessage* activemq::commands::ActiveMQObjectMessage::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Message** (p. 2063).

6.34.2.3 virtual void activemq::commands::ActiveMQObjectMessage::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Message** (p. 2064).

6.34.2.4 virtual bool activemq::commands::ActiveMQObjectMessage::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 372).

6.34.2.5 virtual unsigned char activemq::commands::ActiveMQObjectMessage::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Message** (p. 2066).

6.34.2.6 virtual std::vector<unsigned char> activemq::commands::ActiveMQObjectMessage::getObjectBytes () const [virtual]

Returns the byte array containing the serialized form of the transmitted Object.

Returns:

a byte vector containing the serialized Object.

Exceptions:

CMSException - if the operation fails due to an internal error.

MessageNotReadableException - if the message is in write only mode.

Implements **cms::ObjectMessage** (p. 2262).

6.34.2.7 virtual void activemq::commands::ActiveMQObjectMessage::setObjectBytes (const std::vector< unsigned char > & *bytes*) [virtual]

Sets the payload bytes the represent the Object being transmitted.

Parameters:

bytes The byte array that contains the serialized object.

Exceptions:

CMSException - if the operation fails due to an internal error.

MessageNotWriteableException - if the **Message** (p. 2059) is in Read-only Mode.

Implements **cms::ObjectMessage** (p. 2263).

6.34.2.8 virtual std::string activemq::commands::ActiveMQObjectMessage::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Message** (p. 2073).

6.34.3 Field Documentation

6.34.3.1 const unsigned char activemq::commands::ActiveMQObjectMessage::ID_ACTIVEMQOBJECTMESSAGE = 26 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQObjectMessage.h**

6.35 activemq::wireformat::openwire::marshal::generated::ActiveMQObj Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQObjectMessageMarshaller** (p. 383).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQObjectMessageMarshalle`
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller:

Public Member Functions

- **ActiveMQObjectMessageMarshaller** ()
- virtual ~**ActiveMQObjectMessageMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.35.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQObjectMessageMarshaller** (p. 383). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.35.2 Constructor & Destructor Documentation

6.35.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller::A () [inline]

6.35.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller::~ () [inline, virtual]

6.35.3 Member Function Documentation

6.35.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller::cre () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.35.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller::get () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.35.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller::loo (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.35.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller::loo (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.35.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller::tig (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.35.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller::tig (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.35.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller::tig (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2174).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQObjectMessageMarshaller.h**

6.36 activemq::core::ActiveMQProducer Class Reference

`#include <src/main/activemq/core/ActiveMQProducer.h>`Inheritance diagram for activemq::core::ActiveMQProducer:

Public Member Functions

- **ActiveMQProducer** (**Pointer< activemq::core::kernels::ActiveMQProducerKernel** > kernel)

  *Constructor, creates an instance of an **ActiveMQProducer** (p. 387) to wrap the provided ActiveMQProducerKernel.*

- virtual ~**ActiveMQProducer** ()
- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual void **send** (**cms::Message** *message)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**cms::Message** *message, **cms::AsyncCallback** *callback)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**cms::Message** *message, int deliveryMode, int priority, long long timeToLive)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**cms::Message** *message, int deliveryMode, int priority, long long timeToLive, **cms::AsyncCallback** *callback)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message, **cms::AsyncCallback** *callback)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message, int deliveryMode, int priority, long long timeToLive)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message, int deliveryMode, int priority, long long timeToLive, **cms::AsyncCallback** *callback)

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **setDeliveryMode** (int mode)

  Sets the delivery mode for this Producer.

- virtual int **getDeliveryMode** () const

  Gets the delivery mode for this Producer.

- virtual void **setDisableMessageID** (bool value)

  Sets if Message Ids are disabled for this Producer.

- virtual bool **getDisableMessageID** () const

  Gets if Message Ids are disabled for this Producer.

- virtual void **setDisableMessageTimeStamp** (bool value)

  Sets if Message Time Stamps are disabled for this Producer.

- virtual bool **getDisableMessageTimeStamp** () const

  Gets if Message Time Stamps are disabled for this Producer.

- virtual void **setPriority** (int priority)

  Sets the Priority that this Producers sends messages at.

- virtual int **getPriority** () const

  Gets the Priority level that this producer sends messages at.

- virtual void **setTimeToLive** (long long time)

  Sets the Time to Live that this Producers sends messages with.

- virtual long long **getTimeToLive** () const

  Gets the Time to Live that this producer sends messages with.

- virtual void **setSendTimeout** (long long time)

  Sets the Send Timeout that this Producers sends messages with.

- virtual long long **getSendTimeout** () const

  Gets the Send Timeout that this producer sends messages with.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

  *Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are sent on to the CMS bus.*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  Gets the currently configured MessageTransformer for this MessageProducer.

- bool **isClosed** () const
- const **Pointer**< **commands::ProducerInfo** > & **getProducerInfo** () const

  Retries this object ProducerInfo pointer.

- const **Pointer< commands::ProducerId >** & **getProducerId** () const

  Retries this object ProducerId or NULL if closed.

6.36.1 Constructor & Destructor Documentation

6.36.1.1 activemq::core::ActiveMQProducer::ActiveMQProducer (Pointer< activemq::core::kernels::ActiveMQProducerKernel > *kernel*)

Constructor, creates an instance of an **ActiveMQProducer** (p. 387) to wrap the provided ActiveMQProducerKernel.

Parameters:

kernel The Producer kernel pointer that implements the producers functionality.

6.36.1.2 virtual activemq::core::ActiveMQProducer::~ActiveMQProducer () [virtual]

6.36.2 Member Function Documentation

6.36.2.1 virtual void activemq::core::ActiveMQProducer::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

CMSException - If an error occurs while the resource is being closed.

Implements **cms::Closeable** (p. 959).

6.36.2.2 virtual int activemq::core::ActiveMQProducer::getDeliveryMode () const [inline, virtual]

Gets the delivery mode for this Producer.

Returns:

The DeliveryMode

Implements **cms::MessageProducer** (p. 2181).

6.36.2.3 virtual bool activemq::core::ActiveMQProducer::getDisableMessageID () const [inline, virtual]

Gets if Message Ids are disabled for this Producer.

Returns:

a boolean indicating **state** (p. 70) enable / disable (true / false) for MessageIds.

Implements **cms::MessageProducer** (p. 2181).

6.36.2.4 virtual bool activemq::core::ActiveMQProducer::getDisableMessageTimeStamp () const [inline, virtual]

Gets if Message Time Stamps are disabled for this Producer.

Returns:

boolean indicating **state** (p. 70) of enable / disable (true / false)

Implements **cms::MessageProducer** (p. 2181).

6.36.2.5 virtual cms::MessageTransformer* activemq::core::ActiveMQProducer::getMessageTransformer () const [inline, virtual]

Gets the currently configured MessageTransformer for this MessageProducer.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::MessageProducer** (p. 2182).

6.36.2.6 virtual int activemq::core::ActiveMQProducer::getPriority () const [inline, virtual]

Gets the Priority level that this producer sends messages at.

Returns:

int based priority level

Implements **cms::MessageProducer** (p. 2182).

6.36.2.7 const Pointer<commands::ProducerId>& activemq::core::ActiveMQProducer::getProducerId () const [inline]

Retries this object ProducerId or NULL if closed.

Returns:

ProducerId Reference

6.36.2.8 const Pointer<commands::ProducerInfo>& activemq::core::ActiveMQProducer::getProducerInfo () const [inline]

Retries this object ProducerInfo pointer.

Returns:

ProducerInfo Reference

6.36.2.9 virtual long long activemq::core::ActiveMQProducer::getSendTimeout () const [inline, virtual]

Gets the Send Timeout that this producer sends messages with.

Returns:

The default send timeout value in milliseconds.

6.36.2.10 virtual long long activemq::core::ActiveMQProducer::getTimeToLive () const [inline, virtual]

Gets the Time to Live that this producer sends messages with.

Returns:

The default time to live value in milliseconds.

Implements **cms::MessageProducer** (p. 2182).

6.36.2.11 bool activemq::core::ActiveMQProducer::isClosed () const [inline]

Returns:

true if this Producer has been closed.

6.36.2.12 virtual void activemq::core::ActiveMQProducer::send (const cms::Destination * *destination*, cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*, cms::AsyncCallback * *onComplete*) [virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

destination The destination on which to send the message

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2183).

6.36.2.13 virtual void activemq::core::ActiveMQProducer::send (const cms::Destination * *destination*, cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*) [virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

Parameters:

destination The destination on which to send the message

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2183).

6.36.2.14 virtual void activemq::core::ActiveMQProducer::send (const cms::Destination * *destination*, cms::Message * *message*, cms::AsyncCallback * *onComplete*) [virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

destination The destination on which to send the message

message the message to be sent.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2184).

6.36.2.15 virtual void activemq::core::ActiveMQProducer::send (const cms::Destination * *destination*, cms::Message * *message*) [virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live.

Parameters:

destination The destination on which to send the message

message the message to be sent.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2185).

6.36.2.16 virtual void activemq::core::ActiveMQProducer::send (cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*, cms::AsyncCallback * *onComplete*) [virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2185).

6.36.2.17 virtual void activemq::core::ActiveMQProducer::send (cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*) [virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

Parameters:

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2186).

6.36.2.18 virtual void activemq::core::ActiveMQProducer::send (cms::Message * *message*, cms::AsyncCallback * *onComplete*) [virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

message The message to be sent.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2186).

6.36.2.19 virtual void activemq::core::ActiveMQProducer::send (cms::Message * *message*) [virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live.

Parameters:

message The message to be sent.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2187).

6.36.2.20 virtual void activemq::core::ActiveMQProducer::setDeliveryMode (int *mode*) [inline, virtual]

Sets the delivery mode for this Producer.

Parameters:

mode - The DeliveryMode to use for Message sends.

Implements **cms::MessageProducer** (p. 2187).

6.36.2.21 virtual void activemq::core::ActiveMQProducer::setDisableMessageID (bool *value*) [inline, virtual]

Sets if Message Ids are disabled for this Producer.

Parameters:

value - boolean indicating enable / disable (true / false)

Implements **cms::MessageProducer** (p. 2188).

6.36.2.22 virtual void activemq::core::ActiveMQProducer::setDisableMessageTimeStamp (bool *value*) [inline, virtual]

Sets if Message Time Stamps are disabled for this Producer.

Parameters:

value - boolean indicating enable / disable (true / false)

Implements **cms::MessageProducer** (p. 2188).

6.36.2.23 virtual void activemq::core::ActiveMQProducer::setMessageTransformer (cms::MessageTransformer * *transformer*) [inline, virtual]

Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are sent on to the CMS bus. The CMS **code** (p. 999) never takes ownership of the MessageTransformer pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the MessageTransformer has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to apply on each **cms** (p. 91)::;MessageSend.

Implements **cms::MessageProducer** (p. 2188).

6.36.2.24 virtual void activemq::core::ActiveMQProducer::setPriority (int *priority*) [inline, virtual]

Sets the Priority that this Producers sends messages at.

Parameters:

priority int value for Priority level

Implements **cms::MessageProducer** (p. 2189).

6.36.2.25 virtual void activemq::core::ActiveMQProducer::setSendTimeout (long long *time*) [inline, virtual]

Sets the Send Timeout that this Producers sends messages with.

Parameters:

time The new default send timeout value in milliseconds.

6.36.2.26 virtual void activemq::core::ActiveMQProducer::setTimeToLive (long long *time*) [inline, virtual]

Sets the Time to Live that this Producers sends messages with.

Parameters:

time The new default time to live value in milliseconds.

Implements **cms::MessageProducer** (p. 2189).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQProducer.h**

6.37 activemq::core::kernels::ActiveMQProducerKernel Class Reference

`#include <src/main/activemq/core/kernels/ActiveMQProducerKernel.h>`Inheritance diagram for activemq::core::kernels::ActiveMQProducerKernel:

Public Member Functions

- **ActiveMQProducerKernel** (**ActiveMQSessionKernel** *session, const **Pointer**< **commands::ProducerId** > &producerId, const **Pointer**< **commands::ActiveMQDestination** > &destination, long long sendTimeout)

  *Constructor, creates an instance of an **ActiveMQProducerKernel** (p. 398).*

- virtual ~**ActiveMQProducerKernel** ()
- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual void **send** (**cms::Message** *message)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**cms::Message** *message, **cms::AsyncCallback** *callback)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**cms::Message** *message, int deliveryMode, int priority, long long timeToLive)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**cms::Message** *message, int deliveryMode, int priority, long long timeToLive, **cms::AsyncCallback** *callback)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message, **cms::AsyncCallback** *callback)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message, int deliveryMode, int priority, long long timeToLive)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message, int deliveryMode, int priority, long long timeToLive, **cms::AsyncCallback** *callback)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

  *Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are sent on to the CMS bus.*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  Gets the currently configured MessageTransformer for this MessageProducer.

- virtual void **setDeliveryMode** (int mode)

  Sets the delivery mode for this Producer.

- virtual int **getDeliveryMode** () const

  Gets the delivery mode for this Producer.

- virtual void **setDisableMessageID** (bool value)

  Sets if Message Ids are disabled for this Producer.

- virtual bool **getDisableMessageID** () const

  Gets if Message Ids are disabled for this Producer.

- virtual void **setDisableMessageTimeStamp** (bool value)

  Sets if Message Time Stamps are disabled for this Producer.

- virtual bool **getDisableMessageTimeStamp** () const

  Gets if Message Time Stamps are disabled for this Producer.

- virtual void **setPriority** (int priority)

  Sets the Priority that this Producers sends messages at.

- virtual int **getPriority** () const

  Gets the Priority level that this producer sends messages at.

- virtual void **setTimeToLive** (long long time)

  Sets the Time to Live that this Producers sends messages with.

- virtual long long **getTimeToLive** () const

  Gets the Time to Live that this producer sends messages with.

- virtual void **setSendTimeout** (long long time)

  Sets the Send Timeout that this Producers sends messages with.

- virtual long long **getSendTimeout** () const

  Gets the Send Timeout that this producer sends messages with.

- bool **isClosed** () const
- const **Pointer< commands::ProducerInfo >** & **getProducerInfo** () const

Retries this object ProducerInfo pointer.

- const **Pointer< commands::ProducerId >** & **getProducerId** () const

  Retries this object ProducerId or NULL if closed.

- virtual void **onProducerAck** (const **commands::ProducerAck** &ack)

  Handles the work of Processing a ProducerAck Command from the Broker.

- void **dispose** ()

  Performs Producer object cleanup but doesn't attempt to send the Remove command to the broker.

- long long **getNextMessageSequence** ()

6.37.1 Constructor & Destructor Documentation

6.37.1.1 activemq::core::kernels::ActiveMQProducerKernel::ActiveMQProducerKernel (ActiveMQSessionKernel * *session*, const Pointer< commands::ProducerId > & *producerId*, const Pointer< commands::ActiveMQDestination > & *destination*, long long *sendTimeout*)

Constructor, creates an instance of an **ActiveMQProducerKernel** (p. 398).

Parameters:

session The Session which is the parent of this Producer.

parent Pointer to the **cms::MessageProducer** (p. 2179) that will wrap this kernel object.

producerId Pointer to a ProducerId object which identifies this producer.

destination The assigned Destination this Producer sends to, or null if not set. The Producer does not own the Pointer passed.

sendTimeout The configured send timeout for this Producer.

6.37.1.2 virtual activemq::core::kernels::ActiveMQProducerKernel::~ActiveMQProducerKernel () [virtual]

6.37.2 Member Function Documentation

6.37.2.1 virtual void activemq::core::kernels::ActiveMQProducerKernel::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

CMSException - If an error occurs while the resource is being closed.

Implements **cms::Closeable** (p. 959).

6.37.2.2 void activemq::core::kernels::ActiveMQProducerKernel::dispose ()

Performs Producer object cleanup but doesn't attempt to send the Remove command to the broker. Called when the parent resource if closed first to avoid the message send and avoid any **exceptions** (p. 67) that might be thrown from an attempt to send a remove command to a failed **transport** (p. 72).

6.37.2.3 virtual int activemq::core::kernels::ActiveMQProducerKernel::getDeliveryMode () const [inline, virtual]

Gets the delivery mode for this Producer.

Returns:

The DeliveryMode

Implements **cms::MessageProducer** (p. 2181).

6.37.2.4 virtual bool activemq::core::kernels::ActiveMQProducerKernel::getDisableMessageID () const [inline, virtual]

Gets if Message Ids are disabled for this Producer.

Returns:

a boolean indicating **state** (p. 70) enable / disable (true / false) for MessageIds.

Implements **cms::MessageProducer** (p. 2181).

6.37.2.5 virtual bool activemq::core::kernels::ActiveMQProducerKernel::getDisableMessageTimeStamp () const [inline, virtual]

Gets if Message Time Stamps are disabled for this Producer.

Returns:

boolean indicating **state** (p. 70) of enable / disable (true / false)

Implements **cms::MessageProducer** (p. 2181).

6.37.2.6 virtual cms::MessageTransformer* activemq::core::kernels::ActiveMQProducerKernel::getMessageTransformer () const [inline, virtual]

Gets the currently configured MessageTransformer for this MessageProducer.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::MessageProducer** (p. 2182).

6.37.2.7 long long activemq::core::kernels::ActiveMQProducerKernel::getNextMessageSequence () [inline]

Returns:

the next sequence number for a Message sent from this Producer.

6.37.2.8 virtual int activemq::core::kernels::ActiveMQProducerKernel::getPriority () const [inline, virtual]

Gets the Priority level that this producer sends messages at.

Returns:

int based priority level

Implements **cms::MessageProducer** (p. 2182).

6.37.2.9 const Pointer<commands::ProducerId>& activemq::core::kernels::ActiveMQProducerKernel::getProducerId () const [inline]

Retries this object ProducerId or NULL if closed.

Returns:

ProducerId Reference

6.37.2.10 const Pointer<commands::ProducerInfo>& activemq::core::kernels::ActiveMQProducerKernel::getProducerInfo () const [inline]

Retries this object ProducerInfo pointer.

Returns:

ProducerInfo Reference

6.37.2.11 virtual long long activemq::core::kernels::ActiveMQProducerKernel::getSendTimeout () const [inline, virtual]

Gets the Send Timeout that this producer sends messages with.

Returns:

The default send timeout value in milliseconds.

6.37.2.12 virtual long long activemq::core::kernels::ActiveMQProducerKernel::getTimeToLive () const [inline, virtual]

Gets the Time to Live that this producer sends messages with.

Returns:

The default time to live value in milliseconds.

Implements **cms::MessageProducer** (p. 2182).

6.37.2.13 bool activemq::core::kernels::ActiveMQProducerKernel::isClosed () const [inline]

Returns:

true if this Producer has been closed.

6.37.2.14 virtual void activemq::core::kernels::ActiveMQProducerKernel::onProducerAck (const commands::ProducerAck & *ack*) [virtual]

Handles the work of Processing a ProducerAck Command from the Broker.

Parameters:

ack - The ProducerAck message received from the Broker.

6.37.2.15 virtual void activemq::core::kernels::ActiveMQProducerKernel::send (const cms::Destination * *destination*, cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*, cms::AsyncCallback * *onComplete*) [virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

destination The destination on which to send the message

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2183).

6.37.2.16 virtual void activemq::core::kernels::ActiveMQProducerKernel::send (const cms::Destination * *destination*, cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*) [virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

Parameters:

destination The destination on which to send the message

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2183).

6.37.2.17 virtual void activemq::core::kernels::ActiveMQProducerKernel::send (const cms::Destination * *destination*, cms::Message * *message*, cms::AsyncCallback * *onComplete*) [virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

destination The destination on which to send the message

message the message to be sent.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2184).

6.37.2.18 virtual void activemq::core::kernels::ActiveMQProducerKernel::send (const cms::Destination * *destination*, cms::Message * *message*) [virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live.

Parameters:

destination The destination on which to send the message

message the message to be sent.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2185).

6.37.2.19 virtual void activemq::core::kernels::ActiveMQProducerKernel::send (cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*, cms::AsyncCallback * *onComplete*) [virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2185).

6.37.2.20 virtual void activemq::core::kernels::ActiveMQProducerKernel::send (cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*) [virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

Parameters:

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2186).

6.37.2.21 virtual void activemq::core::kernels::ActiveMQProducerKernel::send (cms::Message * *message*, cms::AsyncCallback * *onComplete*) [virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

message The message to be sent.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2186).

6.37.2.22 virtual void activemq::core::kernels::ActiveMQProducerKernel::send (cms::Message * *message*) [virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live.

Parameters:

message The message to be sent.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2187).

6.37.2.23 virtual void activemq::core::kernels::ActiveMQProducerKernel::setDeliveryMode (int *mode*) [inline, virtual]

Sets the delivery mode for this Producer.

Parameters:

mode - The DeliveryMode to use for Message sends.

Implements **cms::MessageProducer** (p. 2187).

6.37.2.24 virtual void activemq::core::kernels::ActiveMQProducerKernel::setDisableMessageID (bool *value*) [inline, virtual]

Sets if Message Ids are disabled for this Producer.

Parameters:

value - boolean indicating enable / disable (true / false)

Implements **cms::MessageProducer** (p. 2188).

6.37.2.25 virtual void activemq::core::kernels::ActiveMQProducerKernel::setDisableMessageTimeStamp (bool *value*) [inline, virtual]

Sets if Message Time Stamps are disabled for this Producer.

Parameters:

value - boolean indicating enable / disable (true / false)

Implements **cms::MessageProducer** (p. 2188).

6.37.2.26 virtual void activemq::core::kernels::ActiveMQProducerKernel::setMessageTransformer (cms::MessageTransformer * *transformer*) [inline, virtual]

Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are sent on to the CMS bus.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to apply on each **cms** (p. 91)::;MessageSend.

Implements **cms::MessageProducer** (p. 2188).

6.37.2.27 virtual void activemq::core::kernels::ActiveMQProducerKernel::setPriority (int *priority*) [inline, virtual]

Sets the Priority that this Producers sends messages at.

Parameters:

priority int value for Priority level

Implements **cms::MessageProducer** (p. 2189).

6.37.2.28 virtual void activemq::core::kernels::ActiveMQProducerKernel::setSendTimeout (long long *time*) [inline, virtual]

Sets the Send Timeout that this Producers sends messages with.

Parameters:

time The new default send timeout value in milliseconds.

6.37.2.29 virtual void activemq::core::kernels::ActiveMQProducerKernel::setTimeToLive (long long *time*) [inline, virtual]

Sets the Time to Live that this Producers sends messages with.

Parameters:

time The new default time to live value in milliseconds.

Implements **cms::MessageProducer** (p. 2189).

The documentation for this class was generated from the following file:

- src/main/activemq/core/kernels/**ActiveMQProducerKernel.h**

6.38 activemq::util::ActiveMQProperties Class Reference

Implementation of the CMSProperties interface that delegates to a **decaf::util::Properties** (p. 2471) object.

`#include <src/main/activemq/util/ActiveMQProperties.h>`Inheritance diagram for activemq::util::ActiveMQProperties:

Public Member Functions

- **ActiveMQProperties** ()
- virtual ~**ActiveMQProperties** ()
- virtual **decaf::util::Properties** & **getProperties** ()
- virtual const **decaf::util::Properties** & **getProperties** () const
- virtual void **setProperties** (**decaf::util::Properties** &props)
- virtual int **size** () const

  Returns the current count of all the Properties that are currently stored in the Properties object.

- virtual bool **isEmpty** () const

  Returns true if the properties object is empty.

- virtual const char * **getProperty** (const std::string &name) const

  Looks up the value for the given property.

- virtual std::string **getProperty** (const std::string &name, const std::string &defaultValue) const

  Looks up the value for the given property.

- virtual void **setProperty** (const std::string &name, const std::string &value)

  Sets the value for a given property.

- virtual bool **hasProperty** (const std::string &name) const

  Check to see if the Property exists in the set.

- virtual std::string **remove** (const std::string &name)

  Removes the property with the given name.

- virtual std::vector< std::string > **propertyNames** () const

  Returns a vector containing all the names of the properties currently stored in the Properties object.

- virtual std::vector< std::pair< std::string, std::string > > **toArray** () const

  Method that serializes the contents of the property map to an array.

- virtual void **copy** (const CMSProperties *source)
- virtual CMSProperties * **clone** () const

  Clones this object.

- virtual void **clear** ()

Clears all properties from the map.

- virtual std::string **toString** () const

  Formats the contents of the Properties Object into a string that can be logged, etc.

6.38.1 Detailed Description

Implementation of the CMSProperties interface that delegates to a **decaf::util::Properties** (p. 2471) object.

Since:

2.0

6.38.2 Constructor & Destructor Documentation

6.38.2.1 activemq::util::ActiveMQProperties::ActiveMQProperties ()

6.38.2.2 virtual activemq::util::ActiveMQProperties::~ActiveMQProperties () [virtual]

6.38.3 Member Function Documentation

6.38.3.1 virtual void activemq::util::ActiveMQProperties::clear () [inline, virtual]

Clears all properties from the map.

Implements **cms::CMSProperties** (p. 980).

6.38.3.2 virtual CMSProperties* activemq::util::ActiveMQProperties::clone () const [virtual]

Clones this object.

Returns:

a replica of this object.

Implements **cms::CMSProperties** (p. 980).

6.38.3.3 virtual void activemq::util::ActiveMQProperties::copy (const CMSProperties * *source*) [virtual]

6.38.3.4 virtual const decaf::util::Properties& activemq::util::ActiveMQProperties::getProperties () const [inline, virtual]

6.38.3.5 virtual decaf::util::Properties& activemq::util::ActiveMQProperties::getProperties () [inline, virtual]

6.38.3.6 virtual std::string activemq::util::ActiveMQProperties::getProperty (const std::string & *name*, const std::string & *defaultValue*) const [inline, virtual]

Looks up the value for the given property.

Parameters:

name the name of the property to be looked up.

defaultValue The value to be returned if the given property does not exist.

Returns:

The value of the property specified by `name`, if it exists, otherwise the `defaultValue`.

Implements **cms::CMSProperties** (p. 980).

6.38.3.7 virtual const char* activemq::util::ActiveMQProperties::getProperty (const std::string & *name*) const [inline, virtual]

Looks up the value for the given property.

Parameters:

name The name of the property to be looked up.

Returns:

the value of the property with the given name, if it exists. If it does not exist, returns NULL.

Implements **cms::CMSProperties** (p. 981).

6.38.3.8 virtual bool activemq::util::ActiveMQProperties::hasProperty (const std::string & *name*) const [inline, virtual]

Check to see if the Property exists in the set.

Parameters:

name the name of the property to check

Returns:

true if property exists, false otherwise.

Implements **cms::CMSProperties** (p. 981).

6.38.3.9 virtual bool activemq::util::ActiveMQProperties::isEmpty () const [inline, virtual]

Returns true if the properties object is empty.

Returns:

true if empty

Implements **cms::CMSProperties** (p. 981).

6.38.3.10 virtual std::vector<std::string> activemq::util::ActiveMQProperties::propertyNames () const [inline, virtual]

Returns a vector containing all the names of the properties currently stored in the Properties object.

Returns:

an STL std::vector<std::string> with all the currently stored property names.

Implements **cms::CMSProperties** (p. 981).

6.38.3.11 virtual std::string activemq::util::ActiveMQProperties::remove (const std::string & *name*) [inline, virtual]

Removes the property with the given name. If the property existed in the collection then it is removed and returned, otherwise an empty string is returned.

Parameters:

name the name of the property to be removed.

Returns:

the value that was removed from the Properties, or empty string.

Implements **cms::CMSProperties** (p. 982).

6.38.3.12 virtual void activemq::util::ActiveMQProperties::setProperties (decaf::util::Properties & *props*) [inline, virtual]

6.38.3.13 virtual void activemq::util::ActiveMQProperties::setProperty (const std::string & *name*, const std::string & *value*) [inline, virtual]

Sets the value for a given property. If the property already exists, overwrites the value.

Parameters:

name The name of the value to be written.

value The value to be written.

Implements **cms::CMSProperties** (p. 982).

6.38.3.14 virtual int activemq::util::ActiveMQProperties::size () const [inline, virtual]

Returns the current count of all the Properties that are currently stored in the Properties object.

Returns:

the number of properties currently stored.

Implements **cms::CMSProperties** (p. 982).

6.38.3.15 virtual std::vector<std::pair<std::string, std::string> > activemq::util::ActiveMQProperties::toArray () const [inline, virtual]

Method that serializes the contents of the property map to an array.

Returns:

list of pairs where the first is the name and the second is the value.

Implements **cms::CMSProperties** (p. 982).

6.38.3.16 virtual std::string activemq::util::ActiveMQProperties::toString () const [inline, virtual]

Formats the contents of the Properties Object into a string that can be logged, etc.

Returns:

string value of this object.

Implements **cms::CMSProperties** (p. 982).

The documentation for this class was generated from the following file:

- src/main/activemq/util/**ActiveMQProperties.h**

6.39 activemq::commands::ActiveMQQueue Class Reference

`#include <src/main/activemq/commands/ActiveMQQueue.h>`Inheritance diagram for activemq::commands::ActiveMQQueue:

Public Member Functions

- **ActiveMQQueue** ()
- **ActiveMQQueue** (const std::string &name)
- virtual ~**ActiveMQQueue** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQQueue** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const **cms::Destination** * **getCMSDestination** () const
- virtual **cms::Destination::DestinationType** **getDestinationType** () const

  Returns the Type of Destination that this object represents.

- virtual **cms::Destination** * **clone** () const

  Creates a new instance of this destination type that is a copy of this one, and returns it.

- virtual void **copy** (const **cms::Destination** &source)
- virtual const **cms::CMSProperties** & **getCMSProperties** () const

  Retrieve any properties that might be part of the destination that was specified.

- virtual bool **equals** (const **cms::Destination** &other) const
- virtual std::string **getQueueName** () const

  Gets the name of this queue.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQQUEUE** = 100

6.39.1 Constructor & Destructor Documentation

6.39.1.1 activemq::commands::ActiveMQQueue::ActiveMQQueue ()

6.39.1.2 activemq::commands::ActiveMQQueue::ActiveMQQueue (const std::string & *name*)

6.39.1.3 virtual activemq::commands::ActiveMQQueue::~ActiveMQQueue () throw () [virtual]

6.39.2 Member Function Documentation

6.39.2.1 virtual cms::Destination* activemq::commands::ActiveMQQueue::clone () const [inline, virtual]

Creates a new instance of this destination type that is a copy of this one, and returns it.

Returns:

cloned copy of this object

Implements **cms::Destination** (p. 1372).

6.39.2.2 virtual ActiveMQQueue* activemq::commands::ActiveMQQueue::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 323).

6.39.2.3 virtual void activemq::commands::ActiveMQQueue::copy (const cms::Destination & *source*) [inline, virtual]

6.39.2.4 virtual void activemq::commands::ActiveMQQueue::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 323).

6.39.2.5 virtual bool activemq::commands::ActiveMQQueue::equals (const cms::Destination & *other*) const [virtual]

6.39.2.6 virtual bool activemq::commands::ActiveMQQueue::equals (const DataStructure * *value*) const [virtual]

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 324).

6.39.2.7 virtual const cms::Destination* activemq::commands::ActiveMQQueue::getCMSDestination () const [inline, virtual]

Returns:

the **cms::Destination** (p. 1371) interface pointer that the objects that derive from this class implement.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 325).

6.39.2.8 virtual const cms::CMSProperties& activemq::commands::ActiveMQQueue::getCMSProperties () const [inline, virtual]

Retrieve any properties that might be part of the destination that was specified. This is a deviation from the JMS spec but necessary due to C++ restrictions.

Returns:

A {const} reference to a CMSProperties object.

Implements **cms::Destination** (p. 1373).

6.39.2.9 virtual unsigned char activemq::commands::ActiveMQQueue::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 325).

6.39.2.10 virtual cms::Destination::DestinationType activemq::commands::ActiveMQQueue::getDestinationType () const [inline, virtual]

Returns the Type of Destination that this object represents.

Returns:

int type qualifier.

Implements **activemq::commands::ActiveMQDestination** (p. 326).

References cms::Destination::QUEUE.

6.39.2.11 virtual std::string activemq::commands::ActiveMQQueue::getQueueName () const [inline, virtual]

Gets the name of this queue.

Returns:

The queue name.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Queue** (p. 2499).

6.39.2.12 virtual std::string activemq::commands::ActiveMQQueue::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 329).

6.39.3 Field Documentation

6.39.3.1 const unsigned char activemq::commands::ActiveMQQueue::ID_ACTIVEMQQUEUE = 100 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQQueue.h**

6.40 activemq::core::ActiveMQQueueBrowser Class Reference

`#include <src/main/activemq/core/ActiveMQQueueBrowser.h>`Inheritance diagram for activemq::core::ActiveMQQueueBrowser:

Public Member Functions

- **ActiveMQQueueBrowser** (**activemq::core::kernels::ActiveMQSessionKernel** *session, const **Pointer**< **commands::ConsumerId** > &consumerId, const **Pointer**< **commands::ActiveMQDestination** > &destination, const std::string &selector, bool dispatchAsync)
- virtual ~**ActiveMQQueueBrowser** ()
- virtual const **cms::Queue** * **getQueue** () const
- virtual std::string **getMessageSelector** () const
- virtual **cms::MessageEnumeration** * **getEnumeration** ()

  Gets a pointer to an Enumeration object for browsing the Messages currently in the Queue in the order that a client would receive them.

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual bool **hasMoreMessages** ()

  Returns true if there are more Message in the Browser that can be retrieved via the ***nextMessage*** *method.*

- virtual **cms::Message** * **nextMessage** ()

  Returns the Next Message in the Queue if one is present, if no more Message's are available then an Exception is thrown.

Friends

- class **Browser**

6.40.1 Constructor & Destructor Documentation

6.40.1.1 activemq::core::ActiveMQQueueBrowser::ActiveMQQueueBrowser (activemq::core::kernels::ActiveMQSessionKernel * *session*, const Pointer< commands::ConsumerId > & *consumerId*, const Pointer< commands::ActiveMQDestination > & *destination*, const std::string & *selector*, bool *dispatchAsync*)

6.40.1.2 virtual activemq::core::ActiveMQQueueBrowser::~ActiveMQQueueBrowser () [virtual]

6.40.2 Member Function Documentation

6.40.2.1 virtual void activemq::core::ActiveMQQueueBrowser::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

CMSException - If an error occurs while the resource is being closed.

Implements **cms::Closeable** (p. 959).

6.40.2.2 virtual cms::MessageEnumeration* activemq::core::ActiveMQQueueBrowser::getEnumeration () [virtual]

Gets a pointer to an Enumeration object for browsing the Messages currently in the Queue in the order that a client would receive them. The pointer returned is owned by the browser and should not be deleted by the client application.

Returns:

a pointer to a Queue Enumeration, this Pointer is owned by the QueueBrowser and should not be deleted by the client.

Exceptions:

CMSException if an internal error occurs.

Implements **cms::QueueBrowser** (p. 2504).

6.40.2.3 virtual std::string activemq::core::ActiveMQQueueBrowser::getMessageSelector () const [virtual]

Returns:

the MessageSelector that is used on when this browser was created or empty string if no selector was present.

Exceptions:

CMSException if an internal error occurs.

Implements **cms::QueueBrowser** (p. 2505).

6.40.2.4 virtual const cms::Queue* activemq::core::ActiveMQQueueBrowser::getQueue () const [virtual]

Returns:

the Queue that this browser is listening on.

Exceptions:

CMSException if an internal error occurs.

Implements **cms::QueueBrowser** (p. 2505).

6.40.2.5 virtual bool activemq::core::ActiveMQQueueBrowser::hasMoreMessages () [virtual]

Returns true if there are more Message in the Browser that can be retrieved via the `nextMessage` method. If this method returns false and the `nextMessage` method is called then an Exception will be thrown.

Returns:

true if more Message's are available in the Browser.

Implements **cms::MessageEnumeration** (p. 2155).

6.40.2.6 virtual cms::Message* activemq::core::ActiveMQQueueBrowser::nextMessage () [virtual]

Returns the Next Message in the Queue if one is present, if no more Message's are available then an Exception is thrown. If a Message object pointer is returned then that object becomes the property of the caller and must be deleted by the caller when finished.

Returns:

The next Message in the Queue.

Exceptions:

CMSException if no more Message's currently in the Queue.

Implements **cms::MessageEnumeration** (p. 2156).

6.40.3 Friends And Related Function Documentation

6.40.3.1 friend class Browser [friend]

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQQueueBrowser.h**

6.41 activemq::wireformat::openwire::marshal::generated::ActiveMQQue Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQQueueMarshaller** (p. 423).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQQueueMarshaller.h>`Inhe
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller:

Public Member Functions

- **ActiveMQQueueMarshaller** ()
- virtual ~**ActiveMQQueueMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.41.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQQueueMarshaller** (p. 423). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.41.2 Constructor & Destructor Documentation

6.41.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller::ActiveMQ () [inline]

6.41.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller::~ActiveM () [inline, virtual]

6.41.3 Member Function Documentation

6.41.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller::createObjec () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.41.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller::getDataStru () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.41.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller::looseMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 332).

6.41.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller::looseUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 332).

6.41.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 333).

6.41.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 333).

6.41.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller::tightUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 334).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQQueueMarshaller.h**

6.42 activemq::core::ActiveMQSession Class Reference

`#include <src/main/activemq/core/ActiveMQSession.h>`Inheritance diagram for activemq::core::ActiveMQSession:

Public Member Functions

- **ActiveMQSession** (**Pointer< activemq::core::kernels::ActiveMQSessionKernel > kernel**)
- virtual ~**ActiveMQSession** ()
- virtual void **start** ()

  Stops asynchronous message delivery.

- virtual void **stop** ()

  Starts asynchronous message delivery.

- bool **isStarted** () const

  *Indicates whether or not the session is currently in the started **state** (p. 70).*

- virtual void **close** ()

  Closes this session as well as any active child consumers or producers.

- virtual void **commit** ()

  Commits all messages done in this transaction and releases any locks currently held.

- virtual void **rollback** ()

  Rolls back all messages done in this transaction and releases any locks currently held.

- virtual void **recover** ()

  Stops message delivery in this session, and restarts message delivery with the oldest unacknowledged message.

- virtual **cms::MessageConsumer** * **createConsumer** (const **cms::Destination** *destination)

  Creates a MessageConsumer for the specified destination.

- virtual **cms::MessageConsumer** * **createConsumer** (const **cms::Destination** *destination, const std::string &selector)

  Creates a MessageConsumer for the specified destination, using a message selector.

- virtual **cms::MessageConsumer** * **createConsumer** (const **cms::Destination** *destination, const std::string &selector, bool noLocal)

  Creates a MessageConsumer for the specified destination, using a message selector.

- virtual **cms::MessageConsumer** * **createDurableConsumer** (const **cms::Topic** *destination, const std::string &name, const std::string &selector, bool noLocal=false)

  Creates a durable subscriber to the specified topic, using a Message selector.

- virtual **cms::MessageProducer** * **createProducer** (const **cms::Destination** *destination)

  Creates a MessageProducer to send messages to the specified destination.

- virtual **cms::QueueBrowser** * **createBrowser** (const **cms::Queue** *queue)

  Creates a new QueueBrowser to peek at Messages on the given Queue.

- virtual **cms::QueueBrowser** * **createBrowser** (const **cms::Queue** *queue, const std::string &selector)

  Creates a new QueueBrowser to peek at Messages on the given Queue.

- virtual **cms::Queue** * **createQueue** (const std::string &queueName)

  Creates a queue identity given a Queue name.

- virtual **cms::Topic** * **createTopic** (const std::string &topicName)

  Creates a topic identity given a Queue name.

- virtual **cms::TemporaryQueue** * **createTemporaryQueue** ()

  Creates a TemporaryQueue object.

- virtual **cms::TemporaryTopic** * **createTemporaryTopic** ()

  Creates a TemporaryTopic object.

- virtual **cms::Message** * **createMessage** ()

  Creates a new Message.

- virtual **cms::BytesMessage** * **createBytesMessage** ()

  Creates a BytesMessage.

- virtual **cms::BytesMessage** * **createBytesMessage** (const unsigned char *bytes, int bytesSize)

  Creates a BytesMessage and sets the payload to the passed value.

- virtual **cms::StreamMessage** * **createStreamMessage** ()

  Creates a new StreamMessage.

- virtual **cms::TextMessage** * **createTextMessage** ()

  Creates a new TextMessage.

- virtual **cms::TextMessage** * **createTextMessage** (const std::string &text)

  Creates a new TextMessage and set the text to the value given.

- virtual **cms::MapMessage** * **createMapMessage** ()

  Creates a new MapMessage.

- virtual **cms::Session::AcknowledgeMode** **getAcknowledgeMode** () const

  Returns the acknowledgment mode of the session.

- virtual bool **isTransacted** () const

  Gets if the Sessions is a Transacted Session.

- virtual void **unsubscribe** (const std::string &name)

  Unsubscribes a durable subscription that has been created by a client.

- **cms::ExceptionListener** * **getExceptionListener** ()

  This method gets any registered exception listener of this sessions connection and returns it.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

  Set an MessageTransformer instance that is passed on to all MessageProducer and MessageConsumer objects created from this Session.

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  Gets the currently configured MessageTransformer for this Session.

- const **commands::SessionInfo** & **getSessionInfo** () const

  Gets the Session Information object for this session, if the session is closed than this method throws an exception.

- const **commands::SessionId** & **getSessionId** () const

  Gets the Session Id object for this session, if the session is closed than this method throws an exception.

- **ActiveMQConnection** * **getConnection** () const

  *Gets the **ActiveMQConnection** (p. 232) that is associated with this session.*

Protected Attributes

- **Pointer< activemq::core::kernels::ActiveMQSessionKernel > kernel**

6.42.1 Constructor & Destructor Documentation

6.42.1.1 activemq::core::ActiveMQSession::ActiveMQSession (Pointer< activemq::core::kernels::ActiveMQSessionKernel > *kernel*)

6.42.1.2 virtual activemq::core::ActiveMQSession::~ActiveMQSession () [virtual]

6.42.2 Member Function Documentation

6.42.2.1 virtual void activemq::core::ActiveMQSession::close () [virtual]

Closes this session as well as any active child consumers or producers.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2668).

6.42.2.2 virtual void activemq::core::ActiveMQSession::commit () [virtual]

Commits all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.

IllegalStateException - if the method is not called by a transacted session.

Implements **cms::Session** (p. 2669).

Reimplemented in **activemq::core::ActiveMQXASession** (p. 542).

6.42.2.3 virtual cms::QueueBrowser* activemq::core::ActiveMQSession::createBrowser (const cms::Queue * *queue*, const std::string & *selector*) [virtual]

Creates a new QueueBrowser to peek at Messages on the given Queue.

Parameters:

queue the Queue to browse

selector the Message selector to filter which messages are browsed.

Returns:

New QueueBrowser that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if the destination given is invalid.

Implements **cms::Session** (p. 2669).

6.42.2.4 virtual cms::QueueBrowser* activemq::core::ActiveMQSession::createBrowser (const cms::Queue * *queue*) [virtual]

Creates a new QueueBrowser to peek at Messages on the given Queue.

Parameters:

queue the Queue to browse

Returns:

New QueueBrowser that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if the destination given is invalid.

Implements **cms::Session** (p. 2669).

6.42.2.5 virtual cms::BytesMessage* activemq::core::ActiveMQSession::createBytesMessage (const unsigned char * *bytes*, int *bytesSize*) [virtual]

Creates a BytesMessage and sets the payload to the passed value.

Parameters:

bytes an array of bytes to set in the message

bytesSize the size of the bytes array, or number of bytes to use

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2670).

6.42.2.6 virtual cms::BytesMessage* activemq::core::ActiveMQSession::createBytesMessage () [virtual]

Creates a BytesMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2670).

6.42.2.7 virtual cms::MessageConsumer* activemq::core::ActiveMQSession::createConsumer (const cms::Destination * *destination*, const std::string & *selector*, bool *noLocal*) [virtual]

Creates a MessageConsumer for the specified destination, using a message selector.

Parameters:

destination the Destination that this consumer receiving messages for.

selector the Message Selector to use

noLocal if true, and the destination is a topic, inhibits the delivery of messages published by its own connection. The behavior for NoLocal is not specified if the destination is a queue.

Returns:

pointer to a new MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

InvalidSelectorException - if the message selector is invalid.

Implements **cms::Session** (p. 2670).

6.42.2.8 virtual cms::MessageConsumer* activemq::core::ActiveMQSession::createConsumer (const cms::Destination * *destination*, const std::string & *selector*) [virtual]

Creates a MessageConsumer for the specified destination, using a message selector.

Parameters:

destination the Destination that this consumer receiving messages for.

selector the Message Selector to use

Returns:

pointer to a new MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

InvalidSelectorException - if the message selector is invalid.

Implements **cms::Session** (p. 2671).

6.42.2.9 virtual cms::MessageConsumer* activemq::core::ActiveMQSession::createConsumer (const cms::Destination * *destination*) [virtual]

Creates a MessageConsumer for the specified destination.

Parameters:

destination the Destination that this consumer receiving messages for.

Returns:

pointer to a new MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

Implements **cms::Session** (p. 2671).

6.42.2.10 virtual cms::MessageConsumer* activemq::core::ActiveMQSession::createDurableConsumer (const cms::Topic * *destination*, const std::string & *name*, const std::string & *selector*, bool *noLocal* = false) [virtual]

Creates a durable subscriber to the specified topic, using a Message selector. Sessions that create durable consumers must use the same client Id as was used the last time the subscription was created in order to receive all messages that were delivered while the client was offline.

Parameters:

destination the topic to subscribe to

name The name used to identify the subscription

selector the Message Selector to use

noLocal if true, and the destination is a topic, inhibits the delivery of messages published by its own connection. The behavior for NoLocal is not specified if the destination is a queue.

Returns:

pointer to a new durable MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

InvalidSelectorException - if the message selector is invalid.

Implements **cms::Session** (p. 2672).

6.42.2.11 virtual cms::MapMessage* activemq::core::ActiveMQSession::createMapMessage () [virtual]

Creates a new MapMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2672).

6.42.2.12 virtual cms::Message* activemq::core::ActiveMQSession::createMessage () [virtual]

Creates a new Message.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2673).

6.42.2.13 virtual cms::MessageProducer* activemq::core::ActiveMQSession::createProducer (const cms::Destination * *destination*) [virtual]

Creates a MessageProducer to send messages to the specified destination.

Parameters:

destination the Destination to send on

Returns:

New MessageProducer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.
InvalidDestinationException - if an invalid destination is specified.

Implements **cms::Session** (p. 2673).

6.42.2.14 virtual cms::Queue* activemq::core::ActiveMQSession::createQueue (const std::string & *queueName*) [virtual]

Creates a queue identity given a Queue name.

Parameters:

queueName the name of the new Queue

Returns:

new Queue pointer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2673).

6.42.2.15 virtual cms::StreamMessage* activemq::core::ActiveMQSession::createStreamMessage () [virtual]

Creates a new StreamMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2674).

6.42.2.16 virtual cms::TemporaryQueue* activemq::core::ActiveMQSession::createTemporaryQueue () [virtual]

Creates a TemporaryQueue object.

Returns:

new TemporaryQueue pointer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2674).

6.42.2.17 virtual cms::TemporaryTopic* activemq::core::ActiveMQSession::createTemporaryTopic () [virtual]

Creates a TemporaryTopic object.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2674).

6.42.2.18 virtual cms::TextMessage* activemq::core::ActiveMQSession::createTextMessage (const std::string & *text*) [virtual]

Creates a new TextMessage and set the text to the value given.

Parameters:

text the initial text for the message

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2675).

6.42.2.19 virtual cms::TextMessage* activemq::core::ActiveMQSession::createTextMessage () [virtual]

Creates a new TextMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2675).

6.42.2.20 virtual cms::Topic* activemq::core::ActiveMQSession::createTopic (const std::string & *topicName*) [virtual]

Creates a topic identity given a Queue name.

Parameters:

topicName the name of the new Topic

Returns:

new Topic pointer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2675).

6.42.2.21 virtual cms::Session::AcknowledgeMode activemq::core::ActiveMQSession::getAcknowledgeMode () const [inline, virtual]

Returns the acknowledgment mode of the session.

Returns:

the Sessions Acknowledge Mode

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2676).

6.42.2.22 ActiveMQConnection* activemq::core::ActiveMQSession::getConnection () const [inline]

Gets the **ActiveMQConnection** (p. 232) that is associated with this session.

6.42.2.23 cms::ExceptionListener* activemq::core::ActiveMQSession::getExceptionListener () [inline]

This method gets any registered exception listener of this sessions connection and returns it. Mainly intended for use by the objects that this session creates so that they can notify the client of **exceptions** (p. 67) that occur in the context of another thread.

Returns:

cms::ExceptionListener (p. 1452) pointer or NULL

6.42.2.24 virtual cms::MessageTransformer* activemq::core::ActiveMQSession::getMessageTransformer () const [inline, virtual]

Gets the currently configured MessageTransformer for this Session.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::Session** (p. 2676).

6.42.2.25 const commands::SessionId& activemq::core::ActiveMQSession::getSessionId () const [inline]

Gets the Session Id object for this session, if the session is closed than this method throws an exception.

Returns:

SessionId Reference

6.42.2.26 const commands::SessionInfo& activemq::core::ActiveMQSession::getSessionInfo () const [inline]

Gets the Session Information object for this session, if the session is closed than this method throws an exception.

Returns:

SessionInfo Reference

6.42.2.27 bool activemq::core::ActiveMQSession::isStarted () const [inline]

Indicates whether or not the session is currently in the started **state** (p. 70).

6.42.2.28 virtual bool activemq::core::ActiveMQSession::isTransacted () const [inline, virtual]

Gets if the Sessions is a Transacted Session.

Returns:

transacted true - false.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2676).

Reimplemented in **activemq::core::ActiveMQXASession** (p. 543).

6.42.2.29 virtual void activemq::core::ActiveMQSession::recover () [virtual]

Stops message delivery in this session, and restarts message delivery with the oldest unacknowledged message. All consumers deliver messages in a serial order. Acknowledging a received message automatically acknowledges all messages that have been delivered to the client.

Restarting a session causes it to take the following actions:

- Stop message delivery
- Mark all messages that might have been delivered but not acknowledged as "redelivered"
- Restart the delivery sequence including all unacknowledged messages that had been previously delivered. Redelivered messages do not have to be delivered in exactly their original delivery order.

Exceptions:

CMSException - if the CMS provider fails to stop and restart message delivery due to some internal error.

IllegalStateException - if the method is called by a transacted session.

Implements **cms::Session** (p. 2677).

6.42.2.30 virtual void activemq::core::ActiveMQSession::rollback () [virtual]

Rolls back all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.
IllegalStateException - if the method is not called by a transacted session.

Implements **cms::Session** (p. 2677).

Reimplemented in **activemq::core::ActiveMQXASession** (p. 543).

6.42.2.31 virtual void activemq::core::ActiveMQSession::setMessageTransformer (cms::MessageTransformer * *transformer*) [inline, virtual]

Set an MessageTransformer instance that is passed on to all MessageProducer and MessageConsumer objects created from this Session.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to set on all MessageConsumers and MessageProducers.

Implements **cms::Session** (p. 2677).

6.42.2.32 virtual void activemq::core::ActiveMQSession::start () [virtual]

Stops asynchronous message delivery.

Implements **cms::Startable** (p. 2836).

6.42.2.33 virtual void activemq::core::ActiveMQSession::stop () [virtual]

Starts asynchronous message delivery.

Implements **cms::Stoppable** (p. 2903).

6.42.2.34 virtual void activemq::core::ActiveMQSession::unsubscribe (const std::string & *name*) [virtual]

Unsubscribes a durable subscription that has been created by a client. This method deletes the **state** (p. 70) being maintained on behalf of the subscriber by its provider. It is erroneous for a client to delete a durable subscription while there is an active MessageConsumer or Subscriber for the subscription, or while a consumed message is part of a pending transaction or has not been acknowledged in the session.

Parameters:

name The name used to identify this subscription

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2678).

6.42.3 Field Documentation

6.42.3.1 Pointer<activemq::core::kernels::ActiveMQSessionKernel> activemq::core::ActiveMQSession::kernel [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQSession.h**

6.43 activemq::core::ActiveMQSessionExecutor Class Reference

Delegate dispatcher for a single session.

`#include <src/main/activemq/core/ActiveMQSessionExecutor.h>`Inheritance diagram for activemq::core::ActiveMQSessionExecutor:

Public Member Functions

- **ActiveMQSessionExecutor** (**activemq::core::kernels::ActiveMQSessionKernel** *session)

  Creates an un-started executor for the given session.

- virtual ~**ActiveMQSessionExecutor** ()

  *Calls **stop()** (p. 443) then **clear()** (p. 441).*

- virtual void **execute** (const **Pointer**< **MessageDispatch** > &data)

  Executes the dispatch.

- virtual void **executeFirst** (const **Pointer**< **MessageDispatch** > &data)

  Executes the dispatch.

- virtual void **clearMessagesInProgress** ()

  Removes all messages in the Dispatch Channel so that non are delivered.

- virtual bool **hasUncomsumedMessages** () const
- virtual void **wakeup** ()

  wakeup this executer and dispatch any pending messages.

- virtual void **start** ()

  Starts the dispatching.

- virtual void **stop** ()

  Stops dispatching.

- virtual void **close** ()

  Terminates the dispatching thread.

- virtual bool **isRunning** () const
- virtual bool **isEmpty** ()
- virtual void **clear** ()

  Removes all queued messages and destroys them.

- virtual bool **iterate** ()

  *Iterates on the **MessageDispatchChannel** (p. 2137) sending all pending messages to the Consumers they are destined for.*

- std::vector< **Pointer**< **MessageDispatch** > > **getUnconsumedMessages** ()

6.43.1 Detailed Description

Delegate dispatcher for a single session. Contains a thread to provide for asynchronous dispatching.

6.43.2 Constructor & Destructor Documentation

6.43.2.1 activemq::core::ActiveMQSessionExecutor::ActiveMQSessionExecutor (activemq::core::kernels::ActiveMQSessionKernel * *session*)

Creates an un-started executor for the given session.

6.43.2.2 virtual activemq::core::ActiveMQSessionExecutor::~ActiveMQSessionExecutor () [virtual]

Calls **stop()** (p. 443) then **clear()** (p. 441).

6.43.3 Member Function Documentation

6.43.3.1 virtual void activemq::core::ActiveMQSessionExecutor::clear () [inline, virtual]

Removes all queued messages and destroys them.

6.43.3.2 virtual void activemq::core::ActiveMQSessionExecutor::clearMessagesInProgress () [inline, virtual]

Removes all messages in the Dispatch Channel so that non are delivered.

6.43.3.3 virtual void activemq::core::ActiveMQSessionExecutor::close () [inline, virtual]

Terminates the dispatching thread. Once this is called, the executor is no longer usable.

6.43.3.4 virtual void activemq::core::ActiveMQSessionExecutor::execute (const Pointer< MessageDispatch > & *data*) [virtual]

Executes the dispatch. Adds the given data to the end of the queue.

Parameters:

data - the data to be dispatched.

6.43.3.5 virtual void activemq::core::ActiveMQSessionExecutor::executeFirst (const Pointer< MessageDispatch > & *data*) [virtual]

Executes the dispatch. Adds the given data to the beginning of the queue.

Parameters:

data - the data to be dispatched.

6.43.3.6 std::vector< Pointer<MessageDispatch> > activemq::core::ActiveMQSessionExecutor::getUnconsumedMessages () [inline]

Returns:

a vector containing all the unconsumed messages, this clears the Message Dispatch Channel when called.

6.43.3.7 virtual bool activemq::core::ActiveMQSessionExecutor::hasUncomsumedMessages () const [inline, virtual]

Returns:

true if there are any pending messages in the dispatch channel.

6.43.3.8 virtual bool activemq::core::ActiveMQSessionExecutor::isEmpty () [inline, virtual]

Returns:

true if there are no messages in the Dispatch Channel.

6.43.3.9 virtual bool activemq::core::ActiveMQSessionExecutor::isRunning () const [inline, virtual]

Returns:

true indicates if the executor is started

6.43.3.10 virtual bool activemq::core::ActiveMQSessionExecutor::iterate () [virtual]

Iterates on the **MessageDispatchChannel** (p. 2137) sending all pending messages to the Consumers they are destined for.

Returns:

false if there are no more messages to dispatch.

Implements **activemq::threads::Task** (p. 2973).

6.43.3.11 virtual void activemq::core::ActiveMQSessionExecutor::start () [virtual]

Starts the dispatching.

6.43.3.12 virtual void activemq::core::ActiveMQSessionExecutor::stop () [virtual]

Stops dispatching.

6.43.3.13 virtual void activemq::core::ActiveMQSessionExecutor::wakeup () [virtual]

wakeup this executer and dispatch any pending messages.

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQSessionExecutor.h**

6.44 activemq::core::kernels::ActiveMQSessionKernel Class Reference

`#include <src/main/activemq/core/kernels/ActiveMQSessionKernel.h>`Inheritance diagram for activemq::core::kernels::ActiveMQSessionKernel:

Public Member Functions

- **ActiveMQSessionKernel** (**ActiveMQConnection** *__connection__, const **Pointer**< **commands::SessionId** > &id, **cms::Session::AcknowledgeMode** **ackMode**, const **decaf::util::Properties** &properties)
- virtual ~**ActiveMQSessionKernel** ()
- virtual void **redispatch** (**MessageDispatchChannel** &unconsumedMessages)

  Redispatches the given set of unconsumed messages to the consumers.

- virtual void **start** ()

  Stops asynchronous message delivery.

- virtual void **stop** ()

  Starts asynchronous message delivery.

- bool **isStarted** () const

  *Indicates whether or not the session is currently in the started **state** (p. 70).*

- virtual bool **isAutoAcknowledge** () const
- virtual bool **isDupsOkAcknowledge** () const
- virtual bool **isClientAcknowledge** () const
- virtual bool **isIndividualAcknowledge** () const
- void **fire** (const **exceptions::ActiveMQException** &ex)

  Fires the given exception to the exception listener of the connection.

- virtual void **dispatch** (const **Pointer**< **MessageDispatch** > &message)

  Dispatches a message to a particular consumer.

- virtual void **close** ()

  Closes this session as well as any active child consumers or producers.

- virtual void **commit** ()

  Commits all messages done in this transaction and releases any locks currently held.

- virtual void **rollback** ()

  Rolls back all messages done in this transaction and releases any locks currently held.

- virtual void **recover** ()

  Stops message delivery in this session, and restarts message delivery with the oldest unacknowledged message.

- virtual **cms::MessageConsumer** * **createConsumer** (const **cms::Destination** *destination)

  Creates a MessageConsumer for the specified destination.

- virtual **cms::MessageConsumer** * **createConsumer** (const **cms::Destination** *destination, const std::string &selector)

  Creates a MessageConsumer for the specified destination, using a message selector.

- virtual **cms::MessageConsumer** * **createConsumer** (const **cms::Destination** *destination, const std::string &selector, bool noLocal)

  Creates a MessageConsumer for the specified destination, using a message selector.

- virtual **cms::MessageConsumer** * **createDurableConsumer** (const **cms::Topic** *destination, const std::string &name, const std::string &selector, bool noLocal=false)

  Creates a durable subscriber to the specified topic, using a Message selector.

- virtual **cms::MessageProducer** * **createProducer** (const **cms::Destination** *destination)

  Creates a MessageProducer to send messages to the specified destination.

- virtual **cms::QueueBrowser** * **createBrowser** (const **cms::Queue** *queue)

  Creates a new QueueBrowser to peek at Messages on the given Queue.

- virtual **cms::QueueBrowser** * **createBrowser** (const **cms::Queue** *queue, const std::string &selector)

  Creates a new QueueBrowser to peek at Messages on the given Queue.

- virtual **cms::Queue** * **createQueue** (const std::string &queueName)

  Creates a queue identity given a Queue name.

- virtual **cms::Topic** * **createTopic** (const std::string &topicName)

  Creates a topic identity given a Queue name.

- virtual **cms::TemporaryQueue** * **createTemporaryQueue** ()

  Creates a TemporaryQueue object.

- virtual **cms::TemporaryTopic** * **createTemporaryTopic** ()

  Creates a TemporaryTopic object.

- virtual **cms::Message** * **createMessage** ()

  Creates a new Message.

- virtual **cms::BytesMessage** * **createBytesMessage** ()

  Creates a BytesMessage.

- virtual **cms::BytesMessage** * **createBytesMessage** (const unsigned char *bytes, int bytesSize)

  Creates a BytesMessage and sets the payload to the passed value.

- virtual **cms::StreamMessage** * **createStreamMessage** ()

Creates a new StreamMessage.

- virtual **cms::TextMessage** * **createTextMessage** ()

  Creates a new TextMessage.

- virtual **cms::TextMessage** * **createTextMessage** (const std::string &text)

  Creates a new TextMessage and set the text to the value given.

- virtual **cms::MapMessage** * **createMapMessage** ()

  Creates a new MapMessage.

- virtual **cms::Session::AcknowledgeMode** **getAcknowledgeMode** () const

  Returns the acknowledgment mode of the session.

- virtual bool **isTransacted** () const

  Gets if the Sessions is a Transacted Session.

- virtual void **unsubscribe** (const std::string &name)

  Unsubscribes a durable subscription that has been created by a client.

- void **send** (**kernels::ActiveMQProducerKernel** *producer, **Pointer**< **commands::ActiveMQDestination** > destination, **cms::Message** *message, int deliveryMode, int priority, long long timeToLive, **util::MemoryUsage** *producerWindow, long long sendTimeout, **cms::AsyncCallback** *onComplete)

  Sends a message from the Producer specified using this session's connection the message will be sent using the best available means depending on the configuration of the connection.

- **cms::ExceptionListener** * **getExceptionListener** ()

  This method gets any registered exception listener of this sessions connection and returns it.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

  Set an MessageTransformer instance that is passed on to all MessageProducer and MessageConsumer objects created from this Session.

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  Gets the currently configured MessageTransformer for this Session.

- const **commands::SessionInfo** & **getSessionInfo** () const

  Gets the Session Information object for this session, if the session is closed than this method throws an exception.

- const **commands::SessionId** & **getSessionId** () const

  Gets the Session Id object for this session, if the session is closed than this method throws an exception.

- **ActiveMQConnection** * **getConnection** () const

  *Gets the **ActiveMQConnection** (p. 232) that is associated with this session.*

- **Pointer**< **threads::Scheduler** > **getScheduler** () const

  Gets a Pointer to this Session's Scheduler instance.

- long long **getLastDeliveredSequenceId** () const

  Gets the currently set Last Delivered Sequence Id.

- void **setLastDeliveredSequenceId** (long long value)

  Sets the value of the Last Delivered Sequence Id.

- void **oneway** (**Pointer< commands::Command >** command)

  Sends a Command to the broker without requesting any Response be returned.

- **Pointer< commands::Response > syncRequest** (**Pointer< commands::Command >** command, unsigned int timeout=0)

  Sends a synchronous request and returns the response from the broker.

- void **addConsumer** (**Pointer< ActiveMQConsumerKernel >** consumer)

  Adds a MessageConsumerKernel to this session registering it with the Connection and store a reference to it so the session can ensure that all resources are closed when the session is closed.

- void **removeConsumer** (**Pointer< ActiveMQConsumerKernel >** consumer)

  Dispose of a MessageConsumer from this session.

- void **addProducer** (**Pointer< ActiveMQProducerKernel >** producer)

  Adds a MessageProducer to this session registering it with the Connection and store a reference to it so the session can ensure that all resources are closed when the session is closed.

- void **removeProducer** (**Pointer< ActiveMQProducerKernel >** producer)

  Dispose of a MessageProducer from this session.

- virtual void **doStartTransaction** ()

  Starts if not already start a Transaction for this Session.

- **Pointer< ActiveMQTransactionContext > getTransactionContext** ()

  Gets the Pointer to this Session's TransactionContext.

- void **acknowledge** ()

  Request that the Session inform all its consumers to Acknowledge all Message's that have been received so far.

- void **deliverAcks** ()

  Request that this Session inform all of its consumers to deliver their pending acks.

- void **clearMessagesInProgress** ()

  Request that this Session inform all of its consumers to clear all messages that are currently in progress.

- void **wakeup** ()

  Causes the Session to wakeup its executer and ensure all messages are dispatched.

- **Pointer< commands::ConsumerId > getNextConsumerId** ()

  Get the Next available Consumer Id.

- **Pointer< commands::ProducerId > getNextProducerId** ()

Get the Next available Producer Id.

- void **doClose** ()

  Performs the actual Session close operations.

- void **dispose** ()

  Cleans up the Session object's resources without attempting to send the Remove command to the broker, this can be called from ***ActiveMQConnection*** *(p. 232) when it knows that the* ***transport*** *(p. 72) is down and the doClose method would throw an exception when it attempt to send the Remove Command.*

- void **setPrefetchSize** (**Pointer< commands::ConsumerId >** id, int prefetch)

  Set the prefetch level for the given consumer if it exists in this Session to the value specified.

- void **close** (**Pointer< commands::ConsumerId >** id)

  Close the specified consumer if present in this Session.

- bool **isInUse** (**Pointer< commands::ActiveMQDestination >** destination)

  Checks if the given destination is currently in use by any consumers in this Session.

- **Pointer< ActiveMQProducerKernel > lookupProducerKernel** (**Pointer< commands::ProducerId >** id)
- **Pointer< ActiveMQConsumerKernel > lookupConsumerKernel** (**Pointer< commands::ConsumerId >** id)
- bool **iterateConsumers** ()

  Gives each consumer a chance to dispatch messages that have been enqueued by calling each consumers iterate method.

- void **checkMessageListener** () const

  Checks if any MessageConsumer owned by this Session has a set MessageListener and throws an exception if so.

- virtual int **getHashCode** () const

  Returns a Hash Code for this Session based on its SessionId.

- void **sendAck** (**decaf::lang::Pointer< commands::MessageAck >** ack, bool async=false)

  Sends the given MessageAck command to the Broker either via Synchronous call or an Asynchronous call depending on the value of the async parameter.

Protected Attributes

- SessionConfig * **config**
- **Pointer< commands::SessionInfo > sessionInfo**

  SessionInfo for this Session.

- **Pointer< ActiveMQTransactionContext > transaction**

  Transaction Management object.

- **ActiveMQConnection * connection**

Connection.

- **AtomicBoolean closed**
  Indicates that this connection has been closed, it is no longer usable after this becomes true.
- std::auto_ptr< **ActiveMQSessionExecutor** > **executor**
  Sends incoming messages to the registered consumers.
- **cms::Session::AcknowledgeMode ackMode**
  This Sessions Acknowledgment mode.
- **util::LongSequenceGenerator producerIds**
  Next available Producer Id.
- **util::LongSequenceGenerator producerSequenceIds**
  Next available Producer Sequence Id.
- **util::LongSequenceGenerator consumerIds**
  Next available Consumer Id.
- long long **lastDeliveredSequenceId**
  Last Delivered Sequence Id.

Friends

- class **activemq::core::ActiveMQSessionExecutor**

6.44.1 Constructor & Destructor Documentation

6.44.1.1 activemq::core::kernels::ActiveMQSessionKernel::ActiveMQSessionKernel (ActiveMQConnection * *connection*, const Pointer< commands::SessionId > & *id*, cms::Session::AcknowledgeMode *ackMode*, const decaf::util::Properties & *properties*)

6.44.1.2 virtual activemq::core::kernels::ActiveMQSessionKernel::~ActiveMQSessionKernel () [virtual]

6.44.2 Member Function Documentation

6.44.2.1 void activemq::core::kernels::ActiveMQSessionKernel::acknowledge ()

Request that the Session inform all its consumers to Acknowledge all Message's that have been received so far.

6.44.2.2 void activemq::core::kernels::ActiveMQSessionKernel::addConsumer (Pointer< ActiveMQConsumerKernel > *consumer*)

Adds a MessageConsumerKernel to this session registering it with the Connection and store a reference to it so the session can ensure that all resources are closed when the session is closed.

Parameters:

consumer The **ActiveMQConsumerKernel** (p. 303) instance to add to this session.

Exceptions:

ActiveMQException if an internal error occurs.

6.44.2.3 void activemq::core::kernels::ActiveMQSessionKernel::addProducer (Pointer< ActiveMQProducerKernel > *producer*)

Adds a MessageProducer to this session registering it with the Connection and store a reference to it so the session can ensure that all resources are closed when the session is closed.

Parameters:

producer The **ActiveMQProducerKernel** (p. 398) instance to add to this session.

Exceptions:

ActiveMQException if an internal error occurs.

6.44.2.4 void activemq::core::kernels::ActiveMQSessionKernel::checkMessageListener () const

Checks if any MessageConsumer owned by this Session has a set MessageListener and throws an exception if so. This enforces the rule that the MessageConsumers belonging to a Session either operate in sync or async receive as a group.

6.44.2.5 void activemq::core::kernels::ActiveMQSessionKernel::clearMessagesInProgress ()

Request that this Session inform all of its consumers to clear all messages that are currently in progress.

6.44.2.6 void activemq::core::kernels::ActiveMQSessionKernel::close (Pointer< commands::ConsumerId > *id*)

Close the specified consumer if present in this Session.

Parameters:

id The consumer Id to close.

6.44.2.7 virtual void activemq::core::kernels::ActiveMQSessionKernel::close () [virtual]

Closes this session as well as any active child consumers or producers.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2668).

6.44.2.8 virtual void activemq::core::kernels::ActiveMQSessionKernel::commit () [virtual]

Commits all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.

IllegalStateException - if the method is not called by a transacted session.

Implements **cms::Session** (p. 2669).

Reimplemented in **activemq::core::kernels::ActiveMQXASessionKernel** (p. 544).

6.44.2.9 virtual cms::QueueBrowser* activemq::core::kernels::ActiveMQSessionKernel::createBrowser (const cms::Queue * *queue*, const std::string & *selector*) [virtual]

Creates a new QueueBrowser to peek at Messages on the given Queue.

Parameters:

queue the Queue to browse

selector the Message selector to filter which messages are browsed.

Returns:

New QueueBrowser that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if the destination given is invalid.

Implements **cms::Session** (p. 2669).

6.44.2.10 virtual cms::QueueBrowser* activemq::core::kernels::ActiveMQSessionKernel::createBrowser (const cms::Queue * *queue*) [virtual]

Creates a new QueueBrowser to peek at Messages on the given Queue.

Parameters:

queue the Queue to browse

Returns:

New QueueBrowser that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if the destination given is invalid.

Implements **cms::Session** (p. 2669).

6.44.2.11 virtual cms::BytesMessage* activemq::core::kernels::ActiveMQSessionKernel::createBytesMessage (const unsigned char * *bytes*, int *bytesSize*) [virtual]

Creates a BytesMessage and sets the payload to the passed value.

Parameters:

bytes an array of bytes to set in the message

bytesSize the size of the bytes array, or number of bytes to use

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2670).

6.44.2.12 virtual cms::BytesMessage* activemq::core::kernels::ActiveMQSessionKernel::createBytesMessage () [virtual]

Creates a BytesMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2670).

6.44.2.13 virtual cms::MessageConsumer* activemq::core::kernels::ActiveMQSessionKernel::createConsumer (const cms::Destination * *destination*, const std::string & *selector*, bool *noLocal*) [virtual]

Creates a MessageConsumer for the specified destination, using a message selector.

Parameters:

destination the Destination that this consumer receiving messages for.

selector the Message Selector to use

noLocal if true, and the destination is a topic, inhibits the delivery of messages published by its own connection. The behavior for NoLocal is not specified if the destination is a queue.

Returns:

pointer to a new MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

InvalidSelectorException - if the message selector is invalid.

Implements **cms::Session** (p. 2670).

6.44.2.14 virtual cms::MessageConsumer* activemq::core::kernels::ActiveMQSessionKernel::createConsumer (const cms::Destination * *destination*, const std::string & *selector*) [virtual]

Creates a MessageConsumer for the specified destination, using a message selector.

Parameters:

destination the Destination that this consumer receiving messages for.

selector the Message Selector to use

Returns:

pointer to a new MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

InvalidSelectorException - if the message selector is invalid.

Implements **cms::Session** (p. 2671).

6.44.2.15 virtual cms::MessageConsumer* activemq::core::kernels::ActiveMQSessionKernel::createConsumer (const cms::Destination * *destination*) [virtual]

Creates a MessageConsumer for the specified destination.

Parameters:

destination the Destination that this consumer receiving messages for.

Returns:

pointer to a new MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

Implements **cms::Session** (p. 2671).

6.44.2.16 virtual cms::MessageConsumer* activemq::core::kernels::ActiveMQSessionKernel::createDurableConsumer (const cms::Topic * *destination*, const std::string & *name*, const std::string & *selector*, bool *noLocal* = false) [virtual]

Creates a durable subscriber to the specified topic, using a Message selector. Sessions that create durable consumers must use the same client Id as was used the last time the subscription was created in order to receive all messages that were delivered while the client was offline.

Parameters:

destination the topic to subscribe to

name The name used to identify the subscription

selector the Message Selector to use

noLocal if true, and the destination is a topic, inhibits the delivery of messages published by its own connection. The behavior for NoLocal is not specified if the destination is a queue.

Returns:

pointer to a new durable MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

InvalidSelectorException - if the message selector is invalid.

Implements **cms::Session** (p. 2672).

6.44.2.17 virtual cms::MapMessage* activemq::core::kernels::ActiveMQSessionKernel::createMapMessage () [virtual]

Creates a new MapMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2672).

6.44.2.18 virtual cms::Message* activemq::core::kernels::ActiveMQSessionKernel::createMessage () [virtual]

Creates a new Message.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2673).

6.44.2.19 virtual cms::MessageProducer* activemq::core::kernels::ActiveMQSessionKernel::createProducer (const cms::Destination * *destination*) [virtual]

Creates a MessageProducer to send messages to the specified destination.

Parameters:

destination the Destination to send on

Returns:

New MessageProducer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

Implements **cms::Session** (p. 2673).

6.44.2.20 virtual cms::Queue* activemq::core::kernels::ActiveMQSessionKernel::createQueue (const std::string & *queueName*) [virtual]

Creates a queue identity given a Queue name.

Parameters:

queueName the name of the new Queue

Returns:

new Queue pointer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2673).

6.44.2.21 virtual cms::StreamMessage* activemq::core::kernels::ActiveMQSessionKernel::createStreamMessage () [virtual]

Creates a new StreamMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2674).

6.44.2.22 virtual cms::TemporaryQueue* activemq::core::kernels::ActiveMQSessionKernel::createTemporaryQueue () [virtual]

Creates a TemporaryQueue object.

Returns:

new TemporaryQueue pointer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2674).

6.44.2.23 virtual cms::TemporaryTopic* activemq::core::kernels::ActiveMQSessionKernel::createTemporaryTopic () [virtual]

Creates a TemporaryTopic object.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2674).

6.44.2.24 virtual cms::TextMessage* activemq::core::kernels::ActiveMQSessionKernel::createTextMessage (const std::string & *text*) [virtual]

Creates a new TextMessage and set the text to the value given.

Parameters:

text the initial text for the message

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2675).

6.44.2.25 virtual cms::TextMessage* activemq::core::kernels::ActiveMQSessionKernel::createTextMessage () [virtual]

Creates a new TextMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2675).

6.44.2.26 virtual cms::Topic* activemq::core::kernels::ActiveMQSessionKernel::createTopic (const std::string & *topicName*) [virtual]

Creates a topic identity given a Queue name.

Parameters:

topicName the name of the new Topic

Returns:

new Topic pointer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2675).

6.44.2.27 void activemq::core::kernels::ActiveMQSessionKernel::deliverAcks ()

Request that this Session inform all of its consumers to deliver their pending acks.

6.44.2.28 virtual void activemq::core::kernels::ActiveMQSessionKernel::dispatch (const Pointer< MessageDispatch > & *message*) [virtual]

Dispatches a message to a particular consumer.

Parameters:

message - the message to be dispatched

Implements **activemq::core::Dispatcher** (p. 1400).

6.44.2.29 void activemq::core::kernels::ActiveMQSessionKernel::dispose ()

Cleans up the Session object's resources without attempting to send the Remove command to the broker, this can be called from **ActiveMQConnection** (p. 232) when it knows that the **transport** (p. 72) is down and the doClose method would throw an exception when it attempt to send the Remove Command.

6.44.2.30 void activemq::core::kernels::ActiveMQSessionKernel::doClose ()

Performs the actual Session close operations. This method is meant for use by **ActiveMQConnection** (p. 232), the connection object calls this when it has been closed to skip some of the extraneous processing done by the client level close method.

6.44.2.31 virtual void activemq::core::kernels::ActiveMQSessionKernel::doStartTransaction () [virtual]

Starts if not already start a Transaction for this Session. If the session is not a Transacted Session then an exception is thrown. If a transaction is already in progress then this method has no effect.

Exceptions:

ActiveMQException if this is not a Transacted Session.

Reimplemented in **activemq::core::kernels::ActiveMQXASessionKernel** (p. 545).

6.44.2.32 void activemq::core::kernels::ActiveMQSessionKernel::fire (const exceptions::ActiveMQException & *ex*)

Fires the given exception to the exception listener of the connection.

6.44.2.33 virtual cms::Session::AcknowledgeMode activemq::core::kernels::ActiveMQSessionKernel::getAcknowledgeMode () const [virtual]

Returns the acknowledgment mode of the session.

Returns:

the Sessions Acknowledge Mode

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2676).

6.44.2.34 ActiveMQConnection* activemq::core::kernels::ActiveMQSessionKernel::getConnection () const [inline]

Gets the **ActiveMQConnection** (p. 232) that is associated with this session.

6.44.2.35 cms::ExceptionListener* activemq::core::kernels::ActiveMQSessionKernel::getExceptionListener ()

This method gets any registered exception listener of this sessions connection and returns it. Mainly intended for use by the objects that this session creates so that they can notify the client of **exceptions** (p. 67) that occur in the context of another thread.

Returns:

the registered **cms::ExceptionListener** (p. 1452) pointer or NULL

6.44.2.36 virtual int activemq::core::kernels::ActiveMQSessionKernel::getHashCode () const [virtual]

Returns a Hash Code for this Session based on its SessionId.

Returns:

an int hash **code** (p. 999) based on the string balue of SessionId.

Implements **activemq::core::Dispatcher** (p. 1400).

6.44.2.37 long long activemq::core::kernels::ActiveMQSessionKernel::getLastDeliveredSequenceId () const [inline]

Gets the currently set Last Delivered Sequence Id.

Returns:

long long containing the sequence id of the last delivered Message.

6.44.2.38 virtual cms::MessageTransformer* activemq::core::kernels::ActiveMQSessionKernel::getMessageTransformer () const [virtual]

Gets the currently configured MessageTransformer for this Session.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::Session** (p. 2676).

6.44.2.39 Pointer<commands::ConsumerId> activemq::core::kernels::ActiveMQSessionKernel::getNextConsumerId ()

Get the Next available Consumer Id.

Returns:

the next id in the sequence.

6.44.2.40 Pointer<commands::ProducerId> activemq::core::kernels::ActiveMQSessionKernel::getNextProducerId ()

Get the Next available Producer Id.

Returns:

the next id in the sequence.

6.44.2.41 Pointer<threads::Scheduler> activemq::core::kernels::ActiveMQSessionKernel::getScheduler () const

Gets a Pointer to this Session's Scheduler instance.

6.44.2.42 const commands::SessionId& activemq::core::kernels::ActiveMQSessionKernel::getSessionId () const [inline]

Gets the Session Id object for this session, if the session is closed than this method throws an exception.

Returns:

SessionId Reference

6.44.2.43 const commands::SessionInfo& activemq::core::kernels::ActiveMQSessionKernel::getSessionInfo () const [inline]

Gets the Session Information object for this session, if the session is closed than this method throws an exception.

Returns:

SessionInfo Reference

6.44.2.44 Pointer<ActiveMQTransactionContext> activemq::core::kernels::ActiveMQSessionKernel::getTransactionContext () [inline]

Gets the Pointer to this Session's TransactionContext.

Returns:

a Pointer to this Session's TransactionContext

6.44.2.45 virtual bool activemq::core::kernels::ActiveMQSessionKernel::isAutoAcknowledge () const [inline, virtual]

Reimplemented in **activemq::core::kernels::ActiveMQXASessionKernel** (p. 545).

References cms::Session::AUTO_ACKNOWLEDGE.

6.44.2.46 virtual bool activemq::core::kernels::ActiveMQSessionKernel::isClientAcknowledge () const [inline, virtual]

References cms::Session::CLIENT_ACKNOWLEDGE.

6.44.2.47 virtual bool activemq::core::kernels::ActiveMQSessionKernel::isDupsOkAcknowledge () const [inline, virtual]

References cms::Session::DUPS_OK_ACKNOWLEDGE.

6.44.2.48 virtual bool activemq::core::kernels::ActiveMQSessionKernel::isIndividualAcknowledge () const [inline, virtual]

References cms::Session::INDIVIDUAL_ACKNOWLEDGE.

6.44.2.49 bool activemq::core::kernels::ActiveMQSessionKernel::isInUse (Pointer< commands::ActiveMQDestination > *destination*)

Checks if the given destination is currently in use by any consumers in this Session.

Returns:

true if there is a consumer of this destination in this Session.

6.44.2.50 bool activemq::core::kernels::ActiveMQSessionKernel::isStarted () const

Indicates whether or not the session is currently in the started **state** (p. 70).

6.44.2.51 virtual bool activemq::core::kernels::ActiveMQSessionKernel::isTransacted () const [virtual]

Gets if the Sessions is a Transacted Session.

Returns:

transacted true - false.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2676).

Reimplemented in **activemq::core::kernels::ActiveMQXASessionKernel** (p. 545).

6.44.2.52 bool activemq::core::kernels::ActiveMQSessionKernel::iterateConsumers ()

Gives each consumer a chance to dispatch messages that have been enqueued by calling each consumers iterate method. Returns true if this method needs to be called again because a consumer requires further processing time to complete its dispatching. Once all consumers are done this method returns false.

Returns:

true if more iterations are needed false otherwise.

6.44.2.53 Pointer<ActiveMQConsumerKernel> activemq::core::kernels::ActiveMQSessionKernel::lookupConsumerKernel (Pointer< commands::ConsumerId > *id*)

Returns:

a Pointer to an **ActiveMQConsumerKernel** (p. 303) using its ConsumerId, or NULL.

6.44.2.54 Pointer<ActiveMQProducerKernel> activemq::core::kernels::ActiveMQSessionKernel::lookupProducerKernel (Pointer< commands::ProducerId > *id*)

Returns:

a Pointer to an **ActiveMQProducerKernel** (p. 398) using its ProducerId, or NULL.

6.44.2.55 void activemq::core::kernels::ActiveMQSessionKernel::oneway (Pointer< commands::Command > *command*)

Sends a Command to the broker without requesting any Response be returned.

Parameters:

command The message to send to the Broker.

Exceptions:

ActiveMQException if not currently connected, or if the operation fails for any reason.

6.44.2.56 virtual void activemq::core::kernels::ActiveMQSessionKernel::recover () [virtual]

Stops message delivery in this session, and restarts message delivery with the oldest unacknowledged message. All consumers deliver messages in a serial order. Acknowledging a received message automatically acknowledges all messages that have been delivered to the client.

Restarting a session causes it to take the following actions:

- Stop message delivery
- Mark all messages that might have been delivered but not acknowledged as "redelivered"
- Restart the delivery sequence including all unacknowledged messages that had been previously delivered. Redelivered messages do not have to be delivered in exactly their original delivery order.

Exceptions:

CMSException - if the CMS provider fails to stop and restart message delivery due to some internal error.

IllegalStateException - if the method is called by a transacted session.

Implements **cms::Session** (p. 2677).

6.44.2.57 virtual void activemq::core::kernels::ActiveMQSessionKernel::redispatch (MessageDispatchChannel & *unconsumedMessages*) [virtual]

Redispatches the given set of unconsumed messages to the consumers.

Parameters:

unconsumedMessages - unconsumed messages to be redelivered.

6.44.2.58 void activemq::core::kernels::ActiveMQSessionKernel::removeConsumer (Pointer< ActiveMQConsumerKernel > *consumer*)

Dispose of a MessageConsumer from this session. Removes it from the Connection and clean up any resources associated with it.

Parameters:

consumer The **ActiveMQConsumerKernel** (p. 303) instance to remove from this session.

Exceptions:

ActiveMQException if an internal error occurs.

6.44.2.59 void activemq::core::kernels::ActiveMQSessionKernel::removeProducer (Pointer< ActiveMQProducerKernel > *producer*)

Dispose of a MessageProducer from this session. Removes it from the Connection and clean up any resources associated with it.

Parameters:

producer The Producer kernel instance to remove from this session.

Exceptions:

ActiveMQException if an internal error occurs.

6.44.2.60 virtual void activemq::core::kernels::ActiveMQSessionKernel::rollback () [virtual]

Rolls back all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.

IllegalStateException - if the method is not called by a transacted session.

Implements **cms::Session** (p. 2677).

Reimplemented in **activemq::core::kernels::ActiveMQXASessionKernel** (p. 546).

6.44.2.61 void activemq::core::kernels::ActiveMQSessionKernel::send (kernels::ActiveMQProducerKernel * *producer*, Pointer< commands::ActiveMQDestination > *destination*, cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*, util::MemoryUsage * *producerWindow*, long long *sendTimeout*, cms::AsyncCallback * *onComplete*)

Sends a message from the Producer specified using this session's connection the message will be sent using the best available means depending on the configuration of the connection. Asynchronous sends will be chosen if at all possible.

Parameters:

producer The sending Producer

destination The target destination for the Message.

message The message to send to the broker.

deliveryMode The delivery mode to assign to the outgoing message.

priority The priority value to assign to the outgoing message.

timeToLive The time to live for the outgoing message.

usage Pointer to a Usage tracker which if set will be increased by the size of the given message.

sendTimeout The amount of time to block during send before failing, or 0 to wait forever.

Exceptions:

CMSException if an error occurs while sending the message.

6.44.2.62 void activemq::core::kernels::ActiveMQSessionKernel::sendAck (decaf::lang::Pointer< commands::MessageAck > *ack*, bool *async* = `false`)

Sends the given MessageAck command to the Broker either via Synchronous call or an Asynchronous call depending on the value of the async parameter.

Parameters:

ack The MessageAck command to send.

async True if the command can be sent asynchronously.

6.44.2.63 void activemq::core::kernels::ActiveMQSessionKernel::setLastDeliveredSequenceId (long long *value*) `[inline]`

Sets the value of the Last Delivered Sequence Id.

Parameters:

value The new value to assign to the Last Delivered Sequence Id property.

6.44.2.64 virtual void activemq::core::kernels::ActiveMQSessionKernel::setMessageTransformer (cms::MessageTransformer * *transformer*) [virtual]

Set an MessageTransformer instance that is passed on to all MessageProducer and MessageConsumer objects created from this Session.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to set on all MessageConsumers and MessageProducers.

Implements **cms::Session** (p. 2677).

6.44.2.65 void activemq::core::kernels::ActiveMQSessionKernel::setPrefetchSize (Pointer< commands::ConsumerId > *id*, int *prefetch*)

Set the prefetch level for the given consumer if it exists in this Session to the value specified.

Parameters:

id The consumer Id to search for and set prefetch level.

prefetch The new prefetch value.

6.44.2.66 virtual void activemq::core::kernels::ActiveMQSessionKernel::start () [virtual]

Stops asynchronous message delivery.

Implements **cms::Startable** (p. 2836).

6.44.2.67 virtual void activemq::core::kernels::ActiveMQSessionKernel::stop () [virtual]

Starts asynchronous message delivery.

Implements **cms::Stoppable** (p. 2903).

6.44.2.68 Pointer<commands::Response> activemq::core::kernels::ActiveMQSessionKernel::syncRequest (Pointer< commands::Command > *command*, unsigned int *timeout* = 0)

Sends a synchronous request and returns the response from the broker. Converts any error responses into an exception.

Parameters:

command The command to send to the broker.

timeout The time to wait for a response, default is zero or infinite.

Returns:

Pointer to a Response object that the broker has returned for the Command sent.

Exceptions:

ActiveMQException thrown if an error response was received from the broker, or if any other error occurred.

6.44.2.69 virtual void activemq::core::kernels::ActiveMQSessionKernel::unsubscribe (const std::string & *name*) [virtual]

Unsubscribes a durable subscription that has been created by a client. This method deletes the **state** (p. 70) being maintained on behalf of the subscriber by its provider. It is erroneous for a client to delete a durable subscription while there is an active MessageConsumer or Subscriber for the subscription, or while a consumed message is part of a pending transaction or has not been acknowledged in the session.

Parameters:

name The name used to identify this subscription

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2678).

6.44.2.70 void activemq::core::kernels::ActiveMQSessionKernel::wakeup ()

Causes the Session to wakeup its executer and ensure all messages are dispatched.

6.44.3 Friends And Related Function Documentation

6.44.3.1 friend class activemq::core::ActiveMQSessionExecutor [friend]

6.44.4 Field Documentation

6.44.4.1 cms::Session::AcknowledgeMode activemq::core::kernels::ActiveMQSessionKernel::ackMode [protected]

This Sessions Acknowledgment mode.

6.44.4.2 AtomicBoolean activemq::core::kernels::ActiveMQSessionKernel::closed [protected]

Indicates that this connection has been closed, it is no longer usable after this becomes true.

6.44.4.3 SessionConfig* activemq::core::kernels::ActiveMQSessionKernel::config [protected]

6.44.4.4 ActiveMQConnection* activemq::core::kernels::ActiveMQSessionKernel::connection [protected]

Connection.

6.44.4.5 util::LongSequenceGenerator activemq::core::kernels::ActiveMQSessionKernel::consumerIds [protected]

Next available Consumer Id.

6.44.4.6 std::auto_ptr<ActiveMQSessionExecutor> activemq::core::kernels::ActiveMQSessionKernel::executor [protected]

Sends incoming messages to the registered consumers.

6.44.4.7 long long activemq::core::kernels::ActiveMQSessionKernel::lastDeliveredSequenceId [protected]

Last Delivered Sequence Id.

6.44.4.8 util::LongSequenceGenerator activemq::core::kernels::ActiveMQSessionKernel::producerIds [protected]

Next available Producer Id.

6.44.4.9 util::LongSequenceGenerator activemq::core::kernels::ActiveMQSessionKernel::producerSequenceIds [protected]

Next available Producer Sequence Id.

6.44.4.10 Pointer<commands::SessionInfo> activemq::core::kernels::ActiveMQSessionKernel::sessionInfo [protected]

SessionInfo for this Session.

6.44.4.11 Pointer<ActiveMQTransactionContext> activemq::core::kernels::ActiveMQSessionKernel::transaction [protected]

Transaction Management object.

The documentation for this class was generated from the following file:

- src/main/activemq/core/kernels/**ActiveMQSessionKernel.h**

6.45 activemq::commands::ActiveMQStreamMessage Class Reference

`#include <src/main/activemq/commands/ActiveMQStreamMessage.h>`Inheritance diagram for activemq::commands::ActiveMQStreamMessage:

Public Member Functions

- **ActiveMQStreamMessage** ()
- virtual ~**ActiveMQStreamMessage** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQStreamMessage** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual void **onSend** ()

  *Allows derived **Message** (p. 2059) classes to perform tasks before a message is sent.*

- virtual **cms::StreamMessage** * **clone** () const

  Clone this message exactly, returns a new instance that the caller is required to delete.

- virtual void **clearBody** ()

  Clears out the body of the message.

- virtual **ValueType** **getNextValueType** () const

  Returns the value type for the element in the StreamMessage.

- virtual void **reset** ()

  Puts the message body in read-only mode and repositions the stream of bytes to the beginning.

- virtual bool **readBoolean** () const

  Reads a Boolean from the Stream message stream.

- virtual void **writeBoolean** (bool value)

  Writes a boolean to the Stream message stream as a 1-byte value.

- virtual unsigned char **readByte** () const

Reads a Byte from the Stream message stream.

- virtual void **writeByte** (unsigned char value)

  Writes a byte to the Stream message stream as a 1-byte value.

- virtual int **readBytes** (std::vector< unsigned char > &value) const

  Reads a byte array from the Stream message stream.

- virtual void **writeBytes** (const std::vector< unsigned char > &value)

  Writes a byte array to the Stream message stream using the vector size as the number of bytes to write.

- virtual int **readBytes** (unsigned char *buffer, int length) const

  Reads a portion of the Stream message stream.

- virtual void **writeBytes** (const unsigned char *value, int offset, int length)

  Writes a portion of a byte array to the Stream message stream.

- virtual char **readChar** () const

  Reads a Char from the Stream message stream.

- virtual void **writeChar** (char value)

  Writes a char to the Stream message stream as a 1-byte value.

- virtual float **readFloat** () const

  Reads a 32 bit float from the Stream message stream.

- virtual void **writeFloat** (float value)

  Writes a float to the Stream message stream as a 4 byte value.

- virtual double **readDouble** () const

  Reads a 64 bit double from the Stream message stream.

- virtual void **writeDouble** (double value)

  Writes a double to the Stream message stream as a 8 byte value.

- virtual short **readShort** () const

  Reads a 16 bit signed short from the Stream message stream.

- virtual void **writeShort** (short value)

  Writes a signed short to the Stream message stream as a 2 byte value.

- virtual unsigned short **readUnsignedShort** () const

  Reads a 16 bit unsigned short from the Stream message stream.

- virtual void **writeUnsignedShort** (unsigned short value)

  Writes a unsigned short to the Stream message stream as a 2 byte value.

- virtual int **readInt** () const

  Reads a 32 bit signed integer from the Stream message stream.

- virtual void **writeInt** (int value)

  Writes a signed int to the Stream message stream as a 4 byte value.

- virtual long long **readLong** () const

  Reads a 64 bit long from the Stream message stream.

- virtual void **writeLong** (long long value)

  Writes a long long to the Stream message stream as a 8 byte value.

- virtual std::string **readString** () const

  Reads an ASCII String from the Stream message stream.

- virtual void **writeString** (const std::string &value)

  Writes an ASCII String to the Stream message stream.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQSTREAMMESSAGE** = 27

6.45.1 Constructor & Destructor Documentation

6.45.1.1 activemq::commands::ActiveMQStreamMessage::ActiveMQStreamMessage ()

6.45.1.2 virtual activemq::commands::ActiveMQStreamMessage::~ActiveMQStreamMessage () throw () [virtual]

6.45.2 Member Function Documentation

6.45.2.1 virtual void activemq::commands::ActiveMQStreamMessage::clearBody () [virtual]

Clears out the body of the message. This does not clear the headers or properties.

Exceptions:

CMSException - if an internal error occurs.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 371).

6.45.2.2 virtual cms::StreamMessage* activemq::commands::ActiveMQStreamMessage::clone () const [inline, virtual]

Clone this message exactly, returns a new instance that the caller is required to delete.

Returns:

new copy of this message

Implements **cms::Message** (p. 2083).

References activemq::commands::Message::setReadOnlyBody(), and activemq::commands::Message::setReadOnlyProperties().

6.45.2.3 virtual ActiveMQStreamMessage* activemq::commands::ActiveMQStreamMessage::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Message** (p. 2063).

6.45.2.4 virtual void activemq::commands::ActiveMQStreamMessage::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Message** (p. 2064).

6.45.2.5 virtual bool activemq::commands::ActiveMQStreamMessage::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 372).

6.45.2.6 virtual unsigned char activemq::commands::ActiveMQStreamMessage::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Message** (p. 2066).

6.45.2.7 virtual ValueType activemq::commands::ActiveMQStreamMessage::getNextValueType () const [virtual]

Returns the value type for the element in the StreamMessage. The CMS provider should translate all internal type identifiers into the CMS Value types returning UNKNOWN_TYPE for any specialized types not directly supported in the CMS API. The call can fail if the StreamMessage is currently in the middle of a ready of a Byte array.

Returns:

The ValueType contained in the next message element.

Exceptions:

CMSException if no property exists that matches the requested key.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if the message contains invalid data.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2909).

6.45.2.8 virtual void activemq::commands::ActiveMQStreamMessage::onSend () [virtual]

Allows derived **Message** (p. 2059) classes to perform tasks before a message is sent.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 373).

6.45.2.9 virtual bool activemq::commands::ActiveMQStreamMessage::readBoolean () const [virtual]

Reads a Boolean from the Stream message stream.

Returns:

boolean value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2909).

6.45.2.10 virtual unsigned char activemq::commands::ActiveMQStreamMessage::readByte () const [virtual]

Reads a Byte from the Stream message stream.

Returns:

unsigned char value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2910).

6.45.2.11 virtual int activemq::commands::ActiveMQStreamMessage::readBytes (unsigned char * *buffer*, int *length*) const [virtual]

Reads a portion of the Stream message stream. If the length of array value is less than the number of bytes remaining to be read from the stream, the array should be filled. A subsequent call reads the next increment, and so on.

If the number of bytes remaining in the stream is less than the length of array value, the bytes should be read into the array. The return value of the total number of bytes read will be less than the length of the array, indicating that there are no more bytes left to be read from the stream. The next read of the stream returns -1.

If length is negative, or length is greater than the length of the array value, then an CMSException is thrown. No bytes will be read from the stream for this exception case.

Parameters:

buffer the buffer into which the data is read

length the number of bytes to read; must be less than or equal to value.length

Returns:

the total number of bytes read into the buffer, or -1 if there is no more data because the end of the stream has been reached

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2910).

6.45.2.12 virtual int activemq::commands::ActiveMQStreamMessage::readBytes (std::vector< unsigned char > & *value*) const [virtual]

Reads a byte array from the Stream message stream. If the length of vector value is less than the number of bytes remaining to be read from the stream, the vector should be filled. A subsequent call reads the next increment, and so on.

If the number of bytes remaining in the stream is less than the length of vector value, the bytes should be read into the vector. The return value of the total number of bytes read will be less than the length of the vector, indicating that there are no more bytes left to be read from the stream. The next read of the stream returns -1.

Parameters:

value buffer to place data in

Returns:

the total number of bytes read into the buffer, or -1 if there is no more data because the end of the stream has been reached

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2911).

6.45.2.13 virtual char activemq::commands::ActiveMQStreamMessage::readChar () const [virtual]

Reads a Char from the Stream message stream.

Returns:

char value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2911).

6.45.2.14 virtual double activemq::commands::ActiveMQStreamMessage::readDouble () const [virtual]

Reads a 64 bit double from the Stream message stream.

Returns:

double value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2912).

6.45.2.15 virtual float activemq::commands::ActiveMQStreamMessage::readFloat () const [virtual]

Reads a 32 bit float from the Stream message stream.

Returns:

double value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2912).

6.45.2.16 virtual int activemq::commands::ActiveMQStreamMessage::readInt () const [virtual]

Reads a 32 bit signed integer from the Stream message stream.

Returns:

int value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2912).

6.45.2.17 virtual long long activemq::commands::ActiveMQStreamMessage::readLong () const [virtual]

Reads a 64 bit long from the Stream message stream.

Returns:

long long value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2913).

6.45.2.18 virtual short activemq::commands::ActiveMQStreamMessage::readShort () const [virtual]

Reads a 16 bit signed short from the Stream message stream.

Returns:

short value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2913).

6.45.2.19 virtual std::string activemq::commands::ActiveMQStreamMessage::readString () const [virtual]

Reads an ASCII String from the Stream message stream.

Returns:

String from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.

MessageEOFException - if unexpected end of message stream has been reached.

MessageFormatException - if this type conversion is invalid.

MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2914).

6.45.2.20 virtual unsigned short activemq::commands::ActiveMQStreamMessage::readUnsignedShort () const [virtual]

Reads a 16 bit unsigned short from the Stream message stream.

Returns:

unsigned short value from stream

Exceptions:

CMSException - if the CMS provider fails to read the message due to some internal error.
MessageEOFException - if unexpected end of message stream has been reached.
MessageFormatException - if this type conversion is invalid.
MessageNotReadableException - if the message is in write-only mode.

Implements **cms::StreamMessage** (p. 2914).

6.45.2.21 virtual void activemq::commands::ActiveMQStreamMessage::reset () [virtual]

Puts the message body in read-only mode and repositions the stream of bytes to the beginning.

Exceptions:

CMSException - If the provider fails to perform the reset operation.
MessageFormatException - If the **Message** (p. 2059) has an invalid format.

Implements **cms::StreamMessage** (p. 2914).

6.45.2.22 virtual std::string activemq::commands::ActiveMQStreamMessage::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Message** (p. 2073).

6.45.2.23 virtual void activemq::commands::ActiveMQStreamMessage::writeBoolean (bool *value*) [virtual]

Writes a boolean to the Stream message stream as a 1-byte value. The value true is written as the value (byte)1; the value false is written as the value (byte)0.

Parameters:

value boolean to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.
MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2915).

6.45.2.24 virtual void activemq::commands::ActiveMQStreamMessage::writeByte (unsigned char *value*) [virtual]

Writes a byte to the Stream message stream as a 1-byte value.

Parameters:

value byte to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2915).

6.45.2.25 virtual void activemq::commands::ActiveMQStreamMessage::writeBytes (const unsigned char * *value*, int *offset*, int *length*) [virtual]

Writes a portion of a byte array to the Stream message stream. size as the number of bytes to write.

Parameters:

value bytes to write to the stream

offset the initial offset within the byte array

length the number of bytes to use

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2915).

6.45.2.26 virtual void activemq::commands::ActiveMQStreamMessage::writeBytes (const std::vector< unsigned char > & *value*) [virtual]

Writes a byte array to the Stream message stream using the vector size as the number of bytes to write.

Parameters:

value bytes to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2916).

6.45.2.27 virtual void activemq::commands::ActiveMQStreamMessage::writeChar (char *value*) [virtual]

Writes a char to the Stream message stream as a 1-byte value.

Parameters:

value char to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2916).

6.45.2.28 virtual void activemq::commands::ActiveMQStreamMessage::writeDouble (double *value*) [virtual]

Writes a double to the Stream message stream as a 8 byte value.

Parameters:

value double to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2916).

6.45.2.29 virtual void activemq::commands::ActiveMQStreamMessage::writeFloat (float *value*) [virtual]

Writes a float to the Stream message stream as a 4 byte value.

Parameters:

value float to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2917).

6.45.2.30 virtual void activemq::commands::ActiveMQStreamMessage::writeInt (int *value*) [virtual]

Writes a signed int to the Stream message stream as a 4 byte value.

Parameters:

value signed int to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2917).

6.45.2.31 virtual void activemq::commands::ActiveMQStreamMessage::writeLong (long long *value*) [virtual]

Writes a long long to the Stream message stream as a 8 byte value.

Parameters:

value signed long long to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2917).

6.45.2.32 virtual void activemq::commands::ActiveMQStreamMessage::writeShort (short *value*) [virtual]

Writes a signed short to the Stream message stream as a 2 byte value.

Parameters:

value signed short to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2918).

6.45.2.33 virtual void activemq::commands::ActiveMQStreamMessage::writeString (const std::string & *value*) [virtual]

Writes an ASCII String to the Stream message stream.

Parameters:

value String to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2918).

6.45.2.34 virtual void activemq::commands::ActiveMQStreamMessage::writeUnsignedShort (unsigned short *value*) [virtual]

Writes a unsigned short to the Stream message stream as a 2 byte value.

Parameters:

value unsigned short to write to the stream

Exceptions:

CMSException - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException - if the message is in read-only mode.

Implements **cms::StreamMessage** (p. 2918).

6.45.3 Field Documentation

6.45.3.1 const unsigned char activemq::commands::ActiveMQStreamMessage::ID_ACTIVEMQSTREAMMESSAGE = 27 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQStreamMessage.h**

6.46 activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQStreamMessageMarshaller** (p. 483).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQStreamMessageMarshaller`
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller:

Public Member Functions

- **ActiveMQStreamMessageMarshaller** ()
- virtual ~**ActiveMQStreamMessageMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.46.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQStreamMessageMarshaller** (p. 483). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.46.2 Constructor & Destructor Documentation

6.46.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller::

() [inline]

6.46.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller::

() [inline, virtual]

6.46.3 Member Function Documentation

6.46.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller::cr

() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.46.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller::ge

() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.46.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller::lo

(**OpenWireFormat** * *format*, **commands::DataStructure** * *command*, **decaf::io::DataOutputStream** * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.46.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller::loo (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.46.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller::tig (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.46.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller::tig (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.46.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller::tig (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2174).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQStreamMessageMarshaller.h**

6.47 activemq::commands::ActiveMQTempDestination Class Reference

`#include <src/main/activemq/commands/ActiveMQTempDestination.h>`Inheritance diagram for activemq::commands::ActiveMQTempDestination:

Public Member Functions

- **ActiveMQTempDestination** ()
- **ActiveMQTempDestination** (const std::string &name)
- virtual ~**ActiveMQTempDestination** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQTempDestination** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual void **setPhysicalName** (const std::string &**physicalName**)

  Set this destination's physical name.

- void **setConnection** (**core::ActiveMQConnection** ***connection**)

  Sets the Parent Connection that is notified when this destination is destroyed.

- **core::ActiveMQConnection** * **getConnection** () const

  Retrieves the Parent Connection that created this Connection.

- std::string **getConnectionId** () const

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQTEMPDESTINATION** = 0

Protected Attributes

- **core::ActiveMQConnection** * **connection**

  Connection that we call back on close to allow this resource to be cleaned up correctly at this end and at the Broker End.

- std::string **connectionId**

  The Connection Id of the Connection that created this Temporary Destination.

- int **sequenceId**

6.47.1 Constructor & Destructor Documentation

6.47.1.1 activemq::commands::ActiveMQTempDestination::ActiveMQTempDestination ()

6.47.1.2 activemq::commands::ActiveMQTempDestination::ActiveMQTempDestination (const std::string & *name*)

6.47.1.3 virtual activemq::commands::ActiveMQTempDestination::~ActiveMQTempDestination () throw () [virtual]

6.47.2 Member Function Documentation

6.47.2.1 virtual ActiveMQTempDestination* activemq::commands::ActiveMQTempDestination::cloneDataStructure () const [inline, virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 323).

Reimplemented in **activemq::commands::ActiveMQTempQueue** (p. 497), and **activemq::commands::ActiveMQTempTopic** (p. 505).

References NULL.

6.47.2.2 virtual void activemq::commands::ActiveMQTempDestination::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

CMSException - If an error occurs while the resource is being closed.

Implements **cms::Closeable** (p. 959).

6.47.2.3 virtual void activemq::commands::ActiveMQTempDestination::copyDataStructure (const DataStructure * *src*) [inline, virtual]

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 323).

Reimplemented in **activemq::commands::ActiveMQTempQueue** (p. 497), and **activemq::commands::ActiveMQTempTopic** (p. 505).

References activemq::commands::ActiveMQDestination::copyDataStructure().

6.47.2.4 virtual bool activemq::commands::ActiveMQTempDestination::equals (const DataStructure * *value*) const [inline, virtual]

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 324).

Reimplemented in **activemq::commands::ActiveMQTempQueue** (p. 498), and **activemq::commands::ActiveMQTempTopic** (p. 506).

References activemq::commands::ActiveMQDestination::equals().

6.47.2.5 core::ActiveMQConnection* activemq::commands::ActiveMQTempDestination::getConnection () const [inline]

Retrieves the Parent Connection that created this Connection.

Returns:

pointer to a Connection if one was set, false otherwise.

6.47.2.6 std::string activemq::commands::ActiveMQTempDestination::getConnectionId () const [inline]

Returns:

the connection Id of the Connection that created this temporary destination.

6.47.2.7 virtual unsigned char activemq::commands::ActiveMQTempDestination::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 325).

Reimplemented in **activemq::commands::ActiveMQTempQueue** (p. 498), and **activemq::commands::ActiveMQTempTopic** (p. 506).

6.47.2.8 void activemq::commands::ActiveMQTempDestination::setConnection (core::ActiveMQConnection * *connection*) [inline]

Sets the Parent Connection that is notified when this destination is destroyed.

Parameters:

connection The parent connection to be used to destroy this destination if closed..

6.47.2.9 virtual void activemq::commands::ActiveMQTempDestination::setPhysicalName (const std::string & *physicalName*) [virtual]

Set this destination's physical name.

Returns:

const string containing the name

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 329).

6.47.2.10 virtual std::string activemq::commands::ActiveMQTempDestination::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 329).

Reimplemented in **activemq::commands::ActiveMQTempQueue** (p. 499), and **activemq::commands::ActiveMQTempTopic** (p. 507).

6.47.3 Field Documentation

6.47.3.1 core::ActiveMQConnection* activemq::commands::ActiveMQTempDestination::connection [protected]

Connection that we call back on close to allow this resource to be cleaned up correctly at this end and at the Broker End.

6.47.3.2 std::string activemq::commands::ActiveMQTempDestination::connectionId [protected]

The Connection Id of the Connection that created this Temporary Destination.

6.47.3.3 const unsigned char activemq::commands::ActiveMQTempDestination::ID_ACTIVEMQTEMPDESTINATION = 0 [static]

6.47.3.4 int activemq::commands::ActiveMQTempDestination::sequenceId [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQTempDestination.h**

6.48 activemq::wireformat::openwire::marshal::generated::ActiveMQTem Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTempDestinationMarshaller** (p. 492).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQTempDestinationMarshal`
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller:

Public Member Functions

- **ActiveMQTempDestinationMarshaller** ()
- virtual ~**ActiveMQTempDestinationMarshaller** ()
- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.48.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTempDestinationMarshaller** (p. 492). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.48.2 Constructor & Destructor Documentation

6.48.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller () [inline]

6.48.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller () [inline, virtual]

6.48.3 Member Function Documentation

6.48.3.1 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller::l (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 332).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshalle** (p. 501), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 509).

6.48.3.2 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller::l (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 332).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshalle** (p. 502), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 510).

6.48.3.3 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller::t (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 333).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshalle** (p. 502), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 510).

6.48.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller::t (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 333).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshalle** (p. 502), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 510).

6.48.3.5 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller::t (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 334).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshalle** (p. 503), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 511).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQTempDestinationMarshaller.h**

6.49 activemq::commands::ActiveMQTempQueue Class Reference

`#include <src/main/activemq/commands/ActiveMQTempQueue.h>`Inheritance diagram for activemq::commands::ActiveMQTempQueue:

Public Member Functions

- **ActiveMQTempQueue** ()
- **ActiveMQTempQueue** (const std::string &name)
- virtual ~**ActiveMQTempQueue** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQTempQueue** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const **cms::Destination** * **getCMSDestination** () const
- virtual **cms::Destination::DestinationType** **getDestinationType** () const

  Returns the Type of Destination that this object represents.

- virtual **cms::Destination** * **clone** () const

  Creates a new instance of this destination type that is a copy of this one, and returns it.

- virtual void **copy** (const **cms::Destination** &source)
- virtual const **cms::CMSProperties** & **getCMSProperties** () const

  Retrieve any properties that might be part of the destination that was specified.

- virtual bool **equals** (const **cms::Destination** &other) const
- virtual std::string **getQueueName** () const

  Gets the name of this queue.

- virtual void **destroy** ()

  Destroy's the Temporary Destination at the Provider.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQTEMPQUEUE** = 102

6.49.1 Constructor & Destructor Documentation

6.49.1.1 activemq::commands::ActiveMQTempQueue::ActiveMQTempQueue ()

6.49.1.2 activemq::commands::ActiveMQTempQueue::ActiveMQTempQueue (const std::string & *name*)

6.49.1.3 virtual activemq::commands::ActiveMQTempQueue::~ActiveMQTempQueue () throw () [virtual]

6.49.2 Member Function Documentation

6.49.2.1 virtual cms::Destination* activemq::commands::ActiveMQTempQueue::clone () const [inline, virtual]

Creates a new instance of this destination type that is a copy of this one, and returns it.

Returns:

cloned copy of this object

Implements **cms::Destination** (p. 1372).

6.49.2.2 virtual ActiveMQTempQueue* activemq::commands::ActiveMQTempQueue::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 488).

6.49.2.3 virtual void activemq::commands::ActiveMQTempQueue::copy (const cms::Destination & *source*) [inline, virtual]

6.49.2.4 virtual void activemq::commands::ActiveMQTempQueue::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 489).

6.49.2.5 virtual void activemq::commands::ActiveMQTempQueue::destroy () [virtual]

Destroy's the Temporary Destination at the Provider.

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::TemporaryQueue** (p. 2996).

6.49.2.6 virtual bool activemq::commands::ActiveMQTempQueue::equals (const cms::Destination & *other*) const [virtual]

6.49.2.7 virtual bool activemq::commands::ActiveMQTempQueue::equals (const DataStructure * *value*) const [virtual]

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 489).

6.49.2.8 virtual const cms::Destination* activemq::commands::ActiveMQTempQueue::getCMSDestination () const [inline, virtual]

Returns:

the **cms::Destination** (p. 1371) interface pointer that the objects that derive from this class implement.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 325).

6.49.2.9 virtual const cms::CMSProperties& activemq::commands::ActiveMQTempQueue::getCMSProperties () const [inline, virtual]

Retrieve any properties that might be part of the destination that was specified. This is a deviation from the JMS spec but necessary due to C++ restrictions.

Returns:

A {const} reference to a CMSProperties object.

Implements **cms::Destination** (p. 1373).

6.49.2.10 virtual unsigned char activemq::commands::ActiveMQTempQueue::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 489).

6.49.2.11 virtual cms::Destination::DestinationType activemq::commands::ActiveMQTempQueue::getDestinationType () const [inline, virtual]

Returns the Type of Destination that this object represents.

Returns:

int type qualifier.

Implements **activemq::commands::ActiveMQDestination** (p. 326).

References cms::Destination::TEMPORARY_QUEUE.

6.49.2.12 virtual std::string activemq::commands::ActiveMQTempQueue::getQueueName () const [inline, virtual]

Gets the name of this queue.

Returns:

The queue name.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Queue** (p. 2499).

6.49.2.13 virtual std::string activemq::commands::ActiveMQTempQueue::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 490).

6.49.3 Field Documentation

6.49.3.1 const unsigned char activemq::commands::ActiveMQTempQueue::ID_ACTIVEMQTEMPQUEUE = 102 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQTempQueue.h**

6.50 activemq::wireformat::openwire::marshal::generated::ActiveMQTem Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTempQueueMarshaller** (p. 500).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQTempQueueMarshaller.h>`
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller:

Public Member Functions

- **ActiveMQTempQueueMarshaller** ()
- virtual ~**ActiveMQTempQueueMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.50.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTempQueueMarshaller** (p. 500). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.50.2 Constructor & Destructor Documentation

6.50.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller::Acti () [inline]

6.50.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller::~Ac () [inline, virtual]

6.50.3 Member Function Documentation

6.50.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller::create () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.50.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller::getDa () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.50.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller::looseM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM**
(p. 493).

6.50.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller::looseU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM**
(p. 493).

6.50.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM**
(p. 494).

6.50.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM** (p. 494).

6.50.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller::tightU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM** (p. 495).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQTempQueueMarshaller.h**

6.51 activemq::commands::ActiveMQTempTopic Class Reference

`#include <src/main/activemq/commands/ActiveMQTempTopic.h>`Inheritance diagram for activemq::commands::ActiveMQTempTopic:

Public Member Functions

- **ActiveMQTempTopic** ()
- **ActiveMQTempTopic** (const std::string &name)
- virtual ~**ActiveMQTempTopic** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQTempTopic** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const **cms::Destination** * **getCMSDestination** () const
- virtual **cms::Destination::DestinationType** **getDestinationType** () const

  Returns the Type of Destination that this object represents.

- virtual **cms::Destination** * **clone** () const

  Creates a new instance of this destination type that is a copy of this one, and returns it.

- virtual void **copy** (const **cms::Destination** &source)
- virtual const **cms::CMSProperties** & **getCMSProperties** () const

  Retrieve any properties that might be part of the destination that was specified.

- virtual bool **equals** (const **cms::Destination** &other) const
- virtual std::string **getTopicName** () const

  Gets the name of this topic.

- virtual void **destroy** ()

  Destroy's the Temporary Destination at the Provider.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQTEMPTOPIC** = 103

6.51.1 Constructor & Destructor Documentation

6.51.1.1 activemq::commands::ActiveMQTempTopic::ActiveMQTempTopic ()

6.51.1.2 activemq::commands::ActiveMQTempTopic::ActiveMQTempTopic (const std::string & *name*)

6.51.1.3 virtual activemq::commands::ActiveMQTempTopic::~ActiveMQTempTopic () throw () [virtual]

6.51.2 Member Function Documentation

6.51.2.1 virtual cms::Destination* activemq::commands::ActiveMQTempTopic::clone () const [inline, virtual]

Creates a new instance of this destination type that is a copy of this one, and returns it.

Returns:

cloned copy of this object

Implements **cms::Destination** (p. 1372).

6.51.2.2 virtual ActiveMQTempTopic* activemq::commands::ActiveMQTempTopic::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 488).

6.51.2.3 virtual void activemq::commands::ActiveMQTempTopic::copy (const cms::Destination & *source*) [inline, virtual]

6.51.2.4 virtual void activemq::commands::ActiveMQTempTopic::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 489).

6.51.2.5 virtual void activemq::commands::ActiveMQTempTopic::destroy () [virtual]

Destroy's the Temporary Destination at the Provider.

Exceptions:

CMSException

Implements **cms::TemporaryTopic** (p. 2997).

6.51.2.6 virtual bool activemq::commands::ActiveMQTempTopic::equals (const cms::Destination & *other*) const [virtual]

6.51.2.7 virtual bool activemq::commands::ActiveMQTempTopic::equals (const DataStructure * *value*) const [virtual]

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 489).

6.51.2.8 virtual const cms::Destination* activemq::commands::ActiveMQTempTopic::getCMSDestination () const [inline, virtual]

Returns:

the **cms::Destination** (p. 1371) interface pointer that the objects that derive from this class implement.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 325).

6.51.2.9 virtual const cms::CMSProperties& activemq::commands::ActiveMQTempTopic::getCMSProperties () const [inline, virtual]

Retrieve any properties that might be part of the destination that was specified. This is a deviation from the JMS spec but necessary due to C++ restrictions.

Returns:

A {const} reference to a CMSProperties object.

Implements **cms::Destination** (p. 1373).

6.51.2.10 virtual unsigned char activemq::commands::ActiveMQTempTopic::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 489).

6.51.2.11 virtual cms::Destination::DestinationType activemq::commands::ActiveMQTempTopic::getDestinationType () const [inline, virtual]

Returns the Type of Destination that this object represents.

Returns:

int type qualifier.

Implements **activemq::commands::ActiveMQDestination** (p. 326).

References cms::Destination::TEMPORARY_TOPIC.

6.51.2.12 virtual std::string activemq::commands::ActiveMQTempTopic::getTopicName () const [inline, virtual]

Gets the name of this topic.

Returns:

The topic name.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Topic** (p. 3080).

6.51.2.13 virtual std::string activemq::commands::ActiveMQTempTopic::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::ActiveMQTempDestination** (p. 490).

6.51.3 Field Documentation

6.51.3.1 const unsigned char activemq::commands::ActiveMQTempTopic::ID_ACTIVEMQTEMPTOPIC = 103 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQTempTopic.h**

6.52 activemq::wireformat::openwire::marshal::generated::ActiveMQTem Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTempTopicMarshaller** (p. 508).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQTempTopicMarshaller.h>`
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller:

Public Member Functions

- **ActiveMQTempTopicMarshaller** ()
- virtual ~**ActiveMQTempTopicMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.52.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTempTopicMarshaller** (p. 508).
NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.52.2 Constructor & Destructor Documentation

6.52.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller::Activ() [inline]

6.52.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller::~Act() [inline, virtual]

6.52.3 Member Function Documentation

6.52.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller::createO() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.52.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller::getDat() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.52.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller::looseM(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM** (p. 493).

6.52.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller::looseU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM** (p. 493).

6.52.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM** (p. 494).

6.52.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM** (p. 494).

6.52.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller::tightU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationM** (p. 495).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQTempTopicMarshaller.h**

6.53 activemq::commands::ActiveMQTextMessage Class Reference

`#include <src/main/activemq/commands/ActiveMQTextMessage.h>`Inheritance diagram for activemq::commands::ActiveMQTextMessage:

Public Member Functions

- **ActiveMQTextMessage** ()
- virtual ~**ActiveMQTextMessage** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQTextMessage** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual void **clearBody** ()

  Clears out the body of the message.

- virtual void **beforeMarshal** (**wireformat::WireFormat** *wireFormat)

  Called before marshaling is started to prepare the object to be marshaled.

- virtual unsigned int **getSize** () const

  Returns the Size of this message in Bytes.

- virtual **cms::TextMessage** * **clone** () const

  Clone this message exactly, returns a new instance that the caller is required to delete.

- virtual std::string **getText** () const

  Gets the message character buffer.

- virtual void **setText** (const char *msg)

  Sets the message contents, does not take ownership of the passed char, but copies it instead.*

- virtual void **setText** (const std::string &msg)

  Sets the message contents.

Data Fields

- std::auto_ptr< std::string > **text**

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQTEXTMESSAGE** = 28

6.53.1 Constructor & Destructor Documentation

6.53.1.1 activemq::commands::ActiveMQTextMessage::ActiveMQTextMessage ()

6.53.1.2 virtual activemq::commands::ActiveMQTextMessage::~ActiveMQTextMessage () throw () [virtual]

6.53.2 Member Function Documentation

6.53.2.1 virtual void activemq::commands::ActiveMQTextMessage::beforeMarshal (wireformat::WireFormat * *wireFormat*) [virtual]

Called before marshaling is started to prepare the object to be marshaled.

Parameters:

wireFormat The **wireformat** (p. 81) object to control marshaling

Exceptions:

IOException if an I/O error occurs.

Implements **activemq::wireformat::MarshalAware** (p. 2023).

6.53.2.2 virtual void activemq::commands::ActiveMQTextMessage::clearBody () [virtual]

Clears out the body of the message. This does not clear the headers or properties.

Exceptions:

CMSException - if an internal error occurs.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 371).

6.53.2.3 virtual cms::TextMessage* activemq::commands::ActiveMQTextMessage::clone () const [inline, virtual]

Clone this message exactly, returns a new instance that the caller is required to delete.

Returns:

new copy of this message

Implements **cms::Message** (p. 2083).

References activemq::commands::Message::setReadOnlyBody(), and activemq::commands::Message::setReadOnlyProperties().

6.53.2.4 virtual ActiveMQTextMessage* activemq::commands::ActiveMQTextMessage::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Message** (p. 2063).

6.53.2.5 virtual void activemq::commands::ActiveMQTextMessage::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Message** (p. 2064).

6.53.2.6 virtual bool activemq::commands::ActiveMQTextMessage::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 372).

6.53.2.7 virtual unsigned char activemq::commands::ActiveMQTextMessage::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Message** (p. 2066).

6.53.2.8 virtual unsigned int activemq::commands::ActiveMQTextMessage::getSize () const [virtual]

Returns the Size of this message in Bytes.

Returns:

number of bytes this message equates to.

Reimplemented from **activemq::commands::Message** (p. 2068).

6.53.2.9 virtual std::string activemq::commands::ActiveMQTextMessage::getText () const [virtual]

Gets the message character buffer.

Returns:

The message character buffer.

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::TextMessage** (p. 2998).

6.53.2.10 virtual void activemq::commands::ActiveMQTextMessage::setText (const std::string & *msg*) [virtual]

Sets the message contents.

Parameters:

msg The message buffer.

Exceptions:

CMSException - if an internal error occurs.
MessageNotWriteableException - if the message is in read-only mode..

Implements **cms::TextMessage** (p. 2999).

6.53.2.11 virtual void activemq::commands::ActiveMQTextMessage::setText (const char * *msg*) [virtual]

Sets the message contents, does not take ownership of the passed char*, but copies it instead.

Parameters:

msg The message buffer.

Exceptions:

CMSException - if an internal error occurs.
MessageNotWriteableException - if the message is in read-only mode..

Implements **cms::TextMessage** (p. 2999).

6.53.2.12 virtual std::string activemq::commands::ActiveMQTextMessage::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Message** (p. 2073).

6.53.3 Field Documentation

6.53.3.1 const unsigned char activemq::commands::ActiveMQTextMessage::ID_ACTIVEMQTEXTMESSAGE = 28 [static]

6.53.3.2 std::auto_ptr<std::string> activemq::commands::ActiveMQTextMessage::text [mutable]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQTextMessage.h**

6.54 activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTextMessageMarshaller** (p. 517).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQTextMessageMarshaller.h>`

diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller:

Public Member Functions

- **ActiveMQTextMessageMarshaller** ()
- virtual ~**ActiveMQTextMessageMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.54.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTextMessageMarshaller** (p. 517). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.54.2 Constructor & Destructor Documentation

6.54.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller::Ac
() [inline]

6.54.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller::~A
() [inline, virtual]

6.54.3 Member Function Documentation

6.54.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller::creat
() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.54.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller::getD
() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.54.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller::loose
(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.54.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller::loose (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172).

6.54.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller::tight (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.54.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller::tight (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173).

6.54.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller::tight (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2174).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQTextMessageMarshaller.h**

6.55 activemq::commands::ActiveMQTopic Class Reference

`#include <src/main/activemq/commands/ActiveMQTopic.h>`Inheritance diagram for activemq::commands::ActiveMQTopic:

Public Member Functions

- **ActiveMQTopic** ()
- **ActiveMQTopic** (const std::string &name)
- virtual ~**ActiveMQTopic** () throw ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ActiveMQTopic** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const **cms::Destination** * **getCMSDestination** () const
- virtual **cms::Destination::DestinationType** **getDestinationType** () const

  Returns the Type of Destination that this object represents.

- virtual **cms::Destination** * **clone** () const

  Creates a new instance of this destination type that is a copy of this one, and returns it.

- virtual void **copy** (const **cms::Destination** &source)
- virtual const **cms::CMSProperties** & **getCMSProperties** () const

  Retrieve any properties that might be part of the destination that was specified.

- virtual bool **equals** (const **cms::Destination** &other) const
- virtual std::string **getTopicName** () const

  Gets the name of this topic.

Static Public Attributes

- static const unsigned char **ID_ACTIVEMQTOPIC** = 101

6.55.1 Constructor & Destructor Documentation

6.55.1.1 activemq::commands::ActiveMQTopic::ActiveMQTopic ()

6.55.1.2 activemq::commands::ActiveMQTopic::ActiveMQTopic (const std::string & *name*)

6.55.1.3 virtual activemq::commands::ActiveMQTopic::~ActiveMQTopic () throw () [virtual]

6.55.2 Member Function Documentation

6.55.2.1 virtual cms::Destination* activemq::commands::ActiveMQTopic::clone () const [inline, virtual]

Creates a new instance of this destination type that is a copy of this one, and returns it.

Returns:

cloned copy of this object

Implements **cms::Destination** (p. 1372).

6.55.2.2 virtual ActiveMQTopic* activemq::commands::ActiveMQTopic::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 323).

6.55.2.3 virtual void activemq::commands::ActiveMQTopic::copy (const cms::Destination & *source*) [inline, virtual]

6.55.2.4 virtual void activemq::commands::ActiveMQTopic::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 323).

6.55.2.5 virtual bool activemq::commands::ActiveMQTopic::equals (const cms::Destination & *other*) const [virtual]

6.55.2.6 virtual bool activemq::commands::ActiveMQTopic::equals (const DataStructure * *value*) const [virtual]

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 324).

6.55.2.7 virtual const cms::Destination* activemq::commands::ActiveMQTopic::getCMSDestination () const [inline, virtual]

Returns:

the **cms::Destination** (p. 1371) interface pointer that the objects that derive from this class implement.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 325).

6.55.2.8 virtual const cms::CMSProperties& activemq::commands::ActiveMQTopic::getCMSProperties () const [inline, virtual]

Retrieve any properties that might be part of the destination that was specified. This is a deviation from the JMS spec but necessary due to C++ restrictions.

Returns:

A {const} reference to a CMSProperties object.

Implements **cms::Destination** (p. 1373).

6.55.2.9 virtual unsigned char activemq::commands::ActiveMQTopic::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 325).

6.55.2.10 virtual cms::Destination::DestinationType activemq::commands::ActiveMQTopic::getDestinationType () const [inline, virtual]

Returns the Type of Destination that this object represents.

Returns:

int type qualifier.

Implements **activemq::commands::ActiveMQDestination** (p. 326).

References cms::Destination::TOPIC.

6.55.2.11 virtual std::string activemq::commands::ActiveMQTopic::getTopicName () const [inline, virtual]

Gets the name of this topic.

Returns:

The topic name.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Topic** (p. 3080).

6.55.2.12 virtual std::string activemq::commands::ActiveMQTopic::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::ActiveMQDestination** (p. 329).

6.55.3 Field Documentation

6.55.3.1 const unsigned char activemq::commands::ActiveMQTopic::ID_ACTIVEMQTOPIC = 101 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ActiveMQTopic.h**

6.56 activemq::wireformat::openwire::marshal::generated::ActiveMQTop Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTopicMarshaller** (p. 525).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQTopicMarshaller.h>`Inhe
diagram for activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller:

Public Member Functions

- **ActiveMQTopicMarshaller** ()
- virtual ~**ActiveMQTopicMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.56.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTopicMarshaller** (p. 525). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.56.2 Constructor & Destructor Documentation

6.56.2.1 activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller::ActiveMQ () [inline]

6.56.2.2 virtual activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller::~ActiveM () [inline, virtual]

6.56.3 Member Function Documentation

6.56.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.56.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller::getDataStru () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.56.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller::looseMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 332).

6.56.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller::looseUnmars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 332).

6.56.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller::tightMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 333).

6.56.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller::tightMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 333).

6.56.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller::tightUnmars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshal** (p. 334).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ActiveMQTopicMarshaller.h**

6.57 activemq::core::ActiveMQTransactionContext Class Reference

Transaction Management class, hold messages that are to be redelivered upon a request to rollback.

`#include <src/main/activemq/core/ActiveMQTransactionContext.h>`Inheritance diagram for activemq::core::ActiveMQTransactionContext:

Public Member Functions

- **ActiveMQTransactionContext** (**activemq::core::kernels::ActiveMQSessionKernel** *session, const **decaf::util::Properties** &properties)

  Constructor.

- virtual ~**ActiveMQTransactionContext** ()
- virtual void **addSynchronization** (const **Pointer**< **Synchronization** > &sync)

  *Adds a **Synchronization** (p. 2952) to this Transaction.*

- virtual void **removeSynchronization** (const **Pointer**< **Synchronization** > &sync)

  *Removes a **Synchronization** (p. 2952) to this Transaction.*

- virtual void **begin** ()

  Begins a new transaction if one is not currently in progress.

- virtual void **commit** ()

  Commit the current Transaction.

- virtual void **rollback** ()

  Rollback the current Transaction.

- virtual const **decaf::lang::Pointer**< **commands::TransactionId** > & **getTransactionId** () const

  Get the Transaction Id object for the current Transaction, returns NULL if no transaction is running.

- virtual bool **isInTransaction** () const

  Checks to see if there is currently a Transaction in progress returns false if not, true otherwise.

- virtual bool **isInLocalTransaction** () const

  Checks to see if there is currently an Local Transaction in progess, returns false if not, true otherwise.

- virtual bool **isInXATransaction** () const

  Checks to see if there is currently an XA Transaction in progess, returns false if not, true otherwise.

- virtual void **commit** (const **cms::Xid** *xid, bool onePhase)

Commits a global transaction.

- virtual void **end** (const **cms::Xid** *xid, int flags)
  Ends the work done for a transaction branch.
- virtual void **forget** (const **cms::Xid** *xid)
  Informs the Resource Manager that it can forget about a specified transaction branch.
- virtual int **getTransactionTimeout** () const
  Gets the transaction timeout value for this XAResource.
- virtual bool **isSameRM** (const **cms::XAResource** *theXAResource)
- virtual int **prepare** (const **cms::Xid** *xid)
  Requests the Resource manager to prepare to commit a specified transaction.
- virtual int **recover** (int flag, **cms::Xid** **recovered)
  Get a list of prepared transaction branches.
- virtual void **rollback** (const **cms::Xid** *xid)
  Requests the Resource Manager to rollback a specified transaction branch.
- virtual bool **setTransactionTimeout** (int seconds)
  Sets the transaction timeout value for this XAResource.
- virtual void **start** (const **cms::Xid** *xid, int flags)
  Starts work for a specified transaction branch.

6.57.1 Detailed Description

Transaction Management class, hold messages that are to be redelivered upon a request to rollback. The Transaction represents an always running transaction, when it is committed or rolled back it silently creates a new transaction for the next set of messages. The only way to permanently end this transaction is to delete it.

Since:

2.0

6.57.2 Constructor & Destructor Documentation

6.57.2.1 activemq::core::ActiveMQTransactionContext::ActiveMQTransactionContext (activemq::core::kernels::ActiveMQSessionKernel * *session*, const decaf::util::Properties & *properties*)

Constructor.

Parameters:

session The session that contains this transaction

properties Configuration parameters for this object

6.57.2.2 virtual activemq::core::ActiveMQTransactionContext::~ActiveMQTransactionContext () [virtual]

6.57.3 Member Function Documentation

6.57.3.1 virtual void activemq::core::ActiveMQTransactionContext::addSynchronization (const Pointer< Synchronization > & *sync*) [virtual]

Adds a **Synchronization** (p. 2952) to this Transaction.

Parameters:

sync - The **Synchronization** (p. 2952) instance to add.

6.57.3.2 virtual void activemq::core::ActiveMQTransactionContext::begin () [virtual]

Begins a new transaction if one is not currently in progress.

Exceptions:

ActiveMQException

6.57.3.3 virtual void activemq::core::ActiveMQTransactionContext::commit (const cms::Xid * *xid*, bool *onePhase*) [virtual]

Commits a global transaction.

Parameters:

xid the XID which identifies the global transaction.

onePhase true if the resource manager should use a one-phase commit protocol to commit the transaction.

Exceptions:

XAException if an error occurred.

Possible errors are identified by the errorcode in the XAException and include: XA_HEURHAZ, XA_HEURCOM, XA_HEURRB, XA_HEURMIX, XAER_RMERR, XAER_RMFAIL, XAER_NOTA, XAER_INVAL, or XAER_PROTO. In addition, one of the XA_RB* errors can occur if the transaction was not committed and onePhase was set to true. On completion of this method, the Resource Manager has rolled back the transaction and released resources held by the transaction.

Implements **cms::XAResource** (p. 3257).

6.57.3.4 virtual void activemq::core::ActiveMQTransactionContext::commit () [virtual]

Commit the current Transaction.

Exceptions:

ActiveMQException

6.57.3.5 virtual void activemq::core::ActiveMQTransactionContext::end (const cms::Xid * *xid*, int *flags*) [virtual]

Ends the work done for a transaction branch. The Resource Manager disconnects the XA resource from the transaction branch and allows the transaction to complete.

Parameters:

xid the XID which identifies the global transaction. Should have previously been used as the parameter to a start. method.

flags a flags integer - one of: XAResource::TMSUCCESS, XAResource::TMFAIL, or XAResource::TMSUSPEND.

TMSUCCESS means that this section of work completed successfully.

TMFAIL means that this section of work failed. The Resource Manager can mark the transaction for rollback only.

TMSUSPEND means that this section of work is suspended and not yet complete. The associated transaction context is also suspended and must be restarted with a call to **start(Xid, int)** (p. ??) with the TMRESUME flag.

Exceptions:

XAException if an error occurs. Possible error identified in the errorcode include: XAER_RMERR, XAER_RMFAIL, XAER_NOTA, XAER_INVAL, XAER_PROTO, or XA_RB*.

Implements **cms::XAResource** (p. 3257).

6.57.3.6 virtual void activemq::core::ActiveMQTransactionContext::forget (const cms::Xid * *xid*) [virtual]

Informs the Resource Manager that it can forget about a specified transaction branch.

Parameters:

xid the XID which identifies the global transaction.

Exceptions:

XAException if an error occurs. Possible error identified in the errorcode include: XAER_RMERR, XAER_RMFAIL, XAER_NOTA, XAER_INVAL, or XAER_PROTO.

Implements **cms::XAResource** (p. 3258).

6.57.3.7 virtual const decaf::lang::Pointer<commands::TransactionId>& activemq::core::ActiveMQTransactionContext::getTransactionId () const [virtual]

Get the Transaction Id object for the current Transaction, returns NULL if no transaction is running.

Returns:

TransactionInfo

Exceptions:

InvalidStateException if a Transaction is not in progress.

6.57.3.8 virtual int activemq::core::ActiveMQTransactionContext::getTransactionTimeout () const [virtual]

Gets the transaction timeout value for this XAResource. The default timeout value is the default timeout value set for the Resource Manager.

Returns:

the transaction timeout value for this XAResource in seconds.

Exceptions:

XAException if an error occurs. Possible error identified in the errorcode include: XAER_RMERR and XAER_RMFAIL.

Implements **cms::XAResource** (p. 3258).

6.57.3.9 virtual bool activemq::core::ActiveMQTransactionContext::isInLocalTransaction () const [virtual]

Checks to see if there is currently an Local Transaction in progess, returns false if not, true otherwise.

Returns:

true if an Local Transaction is in progress.

6.57.3.10 virtual bool activemq::core::ActiveMQTransactionContext::isInTransaction () const [virtual]

Checks to see if there is currently a Transaction in progress returns false if not, true otherwise.

Returns:

true if a transaction is in progress.

6.57.3.11 virtual bool activemq::core::ActiveMQTransactionContext::isInXATransaction () const [virtual]

Checks to see if there is currently an XA Transaction in progess, returns false if not, true otherwise.

Returns:

true if an XA Transaction is in progress.

6.57.3.12 virtual bool activemq::core::ActiveMQTransactionContext::isSameRM (const cms::XAResource * *theXAResource*) [virtual]

6.57.3.13 virtual int activemq::core::ActiveMQTransactionContext::prepare (const cms::Xid * *xid*) [virtual]

Requests the Resource manager to prepare to commit a specified transaction.

Parameters:

xid the XID which identifies the global transaction.

Returns:

an integer: XA_RDONLY or XA_OK. XA_OK implies that the transaction work has been prepared normally, XA_RDONLY implies that the transaction branch is read only and has been committed. If there is a failure which requires a rollback, an XAException is raised.

Exceptions:

XAException if an error occurs. Possible error identified in the errorcode include: XA_-RB*, XAER_RMERR, XAER_RMFAIL, XAER_NOTA, XAER_INVAL, or XAER_-PROTO.

Implements **cms::XAResource** (p. 3259).

6.57.3.14 virtual int activemq::core::ActiveMQTransactionContext::recover (int *flag*, cms::Xid ** *recovered*) [virtual]

Get a list of prepared transaction branches. Typically used by a transaction manager during recovery to find transaction branches that are in prepared or heuristically completed states.

Parameters:

flag an integer. Must be one of: XAResource::TMSTARTRSCAN, XAResource::TMENDRSCAN, XAResource::TMNOFLAGS.

Returns:

an array of zero or more XIDs identifying the transaction branches in the prepared or heuristically completed states.

Exceptions:

XAException if an error occurs. Possible error identified in the errorcode include: XAER_-RMERR, XAER_RMFAIL, XAER_INVAL, and XAER_PROTO.

Implements **cms::XAResource** (p. 3259).

6.57.3.15 virtual void activemq::core::ActiveMQTransactionContext::removeSynchronization (const Pointer< Synchronization > & *sync*) [virtual]

Removes a **Synchronization** (p. 2952) to this Transaction.

Parameters:

sync - The **Synchronization** (p. 2952) instance to add.

6.57.3.16 virtual void activemq::core::ActiveMQTransactionContext::rollback (const cms::Xid * *xid*) [virtual]

Requests the Resource Manager to rollback a specified transaction branch.

Parameters:

xid the XID which identifies the transaction branch.

Exceptions:

XAException if an error occurs.

Implements **cms::XAResource** (p. 3259).

6.57.3.17 virtual void activemq::core::ActiveMQTransactionContext::rollback () [virtual]

Rollback the current Transaction.

Exceptions:

ActiveMQException

6.57.3.18 virtual bool activemq::core::ActiveMQTransactionContext::setTransactionTimeout (int *seconds*) [virtual]

Sets the transaction timeout value for this XAResource. If the value is set to 0, the default timeout value for the Resource Manager is used.

Parameters:

seconds the new Timeout value in seconds.

Returns:

true if the transaction timeout value has been updated, false otherwise.

Exceptions:

XAException if an error occurs. Possible error identified in the errorcode include: XAER_RMERR, XAER_RMFAIL, or XAER_INVAL.

Implements **cms::XAResource** (p. 3260).

6.57.3.19 virtual void activemq::core::ActiveMQTransactionContext::start (const cms::Xid * *xid*, int *flags*) [virtual]

Starts work for a specified transaction branch.

Parameters:

xid the XID which identifies the transaction branch.

flags an integer. Must be one of XAResource::TMNOFLAGS, XAResource::TMJOIN, or XAResource::TMRESUME.

TMJOIN implies that the start applies to joining a transaction previously passed to the Resource Manager.

TMRESUME implies that the start applies to a suspended transaction that should be restarted.

If TMNOFLAGS is specified, then if the transaction has been previously seen by the Resource Manager, an XAException is raised with the **code** (p. 999) XAER_DUPID.

Exceptions:

XAException if an error occurs. Possible error identified in the errorcode include: XA_RB*, XAER_RMERR, XAER_RMFAIL, XAER_DUPID, XAER_OUTSIDE, XAER_NOTA, XAER_INVAL, or XAER_PROTO.

Implements **cms::XAResource** (p. 3260).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQTransactionContext.h**

6.58 activemq::core::ActiveMQXAConnection Class Reference

`#include <src/main/activemq/core/ActiveMQXAConnection.h>`Inheritance diagram for activemq::core::ActiveMQXAConnection:

Public Member Functions

- **ActiveMQXAConnection** (const **Pointer< transport::Transport >** &transport, const **Pointer< decaf::util::Properties >** &properties)
- virtual ~**ActiveMQXAConnection** ()
- virtual **cms::XASession** * **createXASession** ()

  Creates an XASession object.

- virtual **cms::Session** * **createSession** (**cms::Session::AcknowledgeMode** ackMode)

  *Creates a new **Session** (p. 2665) to work for this **Connection** (p. 1083) using the specified acknowledgment mode.*

  Parameters:

  ***ackMode** the Acknowledgment Mode to use.*

  Exceptions:

  ***CMSException** (p. **973**)*

6.58.1 Constructor & Destructor Documentation

6.58.1.1 activemq::core::ActiveMQXAConnection::ActiveMQXAConnection (const Pointer< transport::Transport > & *transport*, const Pointer< decaf::util::Properties > & *properties*)

6.58.1.2 virtual activemq::core::ActiveMQXAConnection::~ActiveMQXAConnection () [virtual]

6.58.2 Member Function Documentation

6.58.2.1 virtual cms::Session* activemq::core::ActiveMQXAConnection::createSession (cms::Session::AcknowledgeMode *ackMode*) [virtual]

Creates a new **Session** (p. 2665) to work for this **Connection** (p. 1083) using the specified acknowledgment mode.

Parameters:

ackMode the Acknowledgment Mode to use.

Exceptions:

***CMSException** (p. **973**)*

Reimplemented from **activemq::core::ActiveMQConnection** (p. 244).

6.58.2.2 virtual cms::XASession* activemq::core::ActiveMQXAConnection::createXASession () [virtual]

Creates an XASession object.

Returns:

a newly created XASession instance, caller owns the pointer.

Exceptions:

CMSException If the XAConnection object fails to create the XASession instance due to an internal error.

Implements **cms::XAConnection** (p. 3245).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQXAConnection.h**

6.59 activemq::core::ActiveMQXAConnectionFactory Class Reference

`#include <src/main/activemq/core/ActiveMQXAConnectionFactory.h>`Inheritance diagram for activemq::core::ActiveMQXAConnectionFactory:

Public Member Functions

- **ActiveMQXAConnectionFactory** ()
- **ActiveMQXAConnectionFactory** (const std::string &uri, const std::string &username="", const std::string &password="")

  Constructor.

- **ActiveMQXAConnectionFactory** (const **decaf::net::URI** &uri, const std::string &username="", const std::string &password="")

  Constructor.

- virtual ~**ActiveMQXAConnectionFactory** ()
- virtual **cms::XAConnection** * **createXAConnection** ()

  Creates an XAConnection with the default user name and password.

- virtual **cms::XAConnection** * **createXAConnection** (const std::string &userName, const std::string &password)

  Creates an XA connection with the specified user name and password.

Protected Member Functions

- virtual **ActiveMQConnection** * **createActiveMQConnection** (const **Pointer**< **transport::Transport** > &transport, const **Pointer**< **decaf::util::Properties** > &properties)

  *Create a new **ActiveMQConnection** (p. 232) instnace using the provided Transport and Properties.*

6.59.1 Constructor & Destructor Documentation

6.59.1.1 activemq::core::ActiveMQXAConnectionFactory::ActiveMQXAConnectionFactory ()

6.59.1.2 activemq::core::ActiveMQXAConnectionFactory::ActiveMQXAConnectionFactory (const std::string & *uri*, const std::string & *username* = "", const std::string & *password* = "")

Constructor.

Parameters:

uri the URI of the Broker we are connecting to.

username to authenticate with, defaults to ""

password to authenticate with, defaults to ""

6.59.1.3 activemq::core::ActiveMQXAConnectionFactory::ActiveMQXAConnectionFactory (const decaf::net::URI & *uri*, const std::string & *username* = "", const std::string & *password* = "")

Constructor.

Parameters:

uri the URI of the Broker we are connecting to.

username to authenticate with, defaults to ""

password to authenticate with, defaults to ""

6.59.1.4 virtual activemq::core::ActiveMQXAConnectionFactory::~ActiveMQXAConnectionFactory () [virtual]

6.59.2 Member Function Documentation

6.59.2.1 virtual ActiveMQConnection* activemq::core::ActiveMQXAConnectionFactory::createActiveMQConnection (const Pointer< transport::Transport > & *transport*, const Pointer< decaf::util::Properties > & *properties*) [protected, virtual]

Create a new **ActiveMQConnection** (p. 232) instnace using the provided Transport and Properties. Subclasses can override this to control the actual type of **ActiveMQConnection** (p. 232) that is created.

Parameters:

transport *(p. 72)* The Transport that the Connection should use to communicate with the Broker.

properties The Properties that are assigned to the new Connection instance.

Returns:

a new **ActiveMQConnection** (p. 232) pointer instance.

Reimplemented from **activemq::core::ActiveMQConnectionFactory** (p. 272).

6.59.2.2 virtual cms::XAConnection* activemq::core::ActiveMQXAConnectionFactory::createXAConnection (const std::string & *userName*, const std::string & *password*) [virtual]

Creates an XA connection with the specified user name and password. The connection is created in stopped mode just as the standard ConnectionFactory creates a new Connection. No messages will be delivered until the Connection.start method is explicitly called.

Returns:

a new XAConnectionFactory instance, the caller owns the returned pointer.

Exceptions:

CMSException if an internal error occurs while creating the Connection.

CMSSecurityException if the client authentication fails because the user name or password are invalid.

Implements **cms::XAConnectionFactory** (p. 3247).

6.59.2.3 virtual cms::XAConnection* activemq::core::ActiveMQXAConnectionFactory::createXAConnection () [virtual]

Creates an XAConnection with the default user name and password. The connection is created in stopped mode just as the standard Connection object is created from the ConnectionFactory. No messages will be delivered until the Connection.start method is explicitly called.

Returns:

a new XAConnectionFactory instance, the caller owns the returned pointer.

Exceptions:

CMSException if an internal error occurs while creating the Connection.

CMSSecurityException if the client authentication fails because the user name or password are invalid.

Implements **cms::XAConnectionFactory** (p. 3248).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQXAConnectionFactory.h**

6.60 activemq::core::ActiveMQXASession Class Reference

`#include <src/main/activemq/core/ActiveMQXASession.h>`Inheritance diagram for activemq::core::ActiveMQXASession:

Public Member Functions

- **ActiveMQXASession** (**Pointer< activemq::core::kernels::ActiveMQXASessionKernel > kernel**)
- virtual ~**ActiveMQXASession** ()
- virtual bool **isTransacted** () const

  Gets if the Sessions is a Transacted Session.

- virtual bool **isAutoAcknowledge** () const
- virtual void **doStartTransaction** ()
- virtual void **commit** ()

  Commits all messages done in this transaction and releases any locks currently held.

- virtual void **rollback** ()

  Rolls back all messages done in this transaction and releases any locks currently held.

- virtual **cms::XAResource** * **getXAResource** () const

  Returns the XA resource associated with this Session to the caller.

6.60.1 Constructor & Destructor Documentation

6.60.1.1 activemq::core::ActiveMQXASession::ActiveMQXASession (Pointer< activemq::core::kernels::ActiveMQXASessionKernel > *kernel*)

6.60.1.2 virtual activemq::core::ActiveMQXASession::~ActiveMQXASession () `[virtual]`

6.60.2 Member Function Documentation

6.60.2.1 virtual void activemq::core::ActiveMQXASession::commit () `[virtual]`

Commits all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.

IllegalStateException - if the method is not called by a transacted session.

Reimplemented from **activemq::core::ActiveMQSession** (p. 430).

6.60.2.2 virtual void activemq::core::ActiveMQXASession::doStartTransaction () [virtual]

6.60.2.3 virtual cms::XAResource* activemq::core::ActiveMQXASession::getXAResource () const [virtual]

Returns the XA resource associated with this Session to the caller. The client can use the provided XA resource to interact with the XA Transaction Manager in use in the client application.

Returns:

an XAResouce instance to the caller, the caller does not own this pointer and should not delete it.

Implements **cms::XASession** (p. 3263).

6.60.2.4 virtual bool activemq::core::ActiveMQXASession::isAutoAcknowledge () const [virtual]

6.60.2.5 virtual bool activemq::core::ActiveMQXASession::isTransacted () const [virtual]

Gets if the Sessions is a Transacted Session.

Returns:

transacted true - false.

Exceptions:

CMSException - If an internal error occurs.

Reimplemented from **activemq::core::ActiveMQSession** (p. 437).

6.60.2.6 virtual void activemq::core::ActiveMQXASession::rollback () [virtual]

Rolls back all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.

IllegalStateException - if the method is not called by a transacted session.

Reimplemented from **activemq::core::ActiveMQSession** (p. 438).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQXASession.h**

6.61 activemq::core::kernels::ActiveMQXASessionKernel Class Reference

`#include <src/main/activemq/core/kernels/ActiveMQXASessionKernel.h>`Inheritance diagram for activemq::core::kernels::ActiveMQXASessionKernel:

Public Member Functions

- **ActiveMQXASessionKernel** (**ActiveMQConnection** *connection, const **Pointer**< **commands::SessionId** > &sessionId, const **decaf::util::Properties** &properties)
- virtual ~**ActiveMQXASessionKernel** ()
- virtual bool **isTransacted** () const

  Gets if the Sessions is a Transacted Session.

- virtual bool **isAutoAcknowledge** () const
- virtual void **doStartTransaction** ()

  Starts if not already start a Transaction for this Session.

- virtual void **commit** ()

  Commits all messages done in this transaction and releases any locks currently held.

- virtual void **rollback** ()

  Rolls back all messages done in this transaction and releases any locks currently held.

- virtual **cms::XAResource** * **getXAResource** () const

  Returns the XA resource associated with this Session to the caller.

6.61.1 Constructor & Destructor Documentation

6.61.1.1 activemq::core::kernels::ActiveMQXASessionKernel::ActiveMQXASessionKernel (ActiveMQConnection * *connection*, const Pointer< commands::SessionId > & *sessionId*, const decaf::util::Properties & *properties*)

6.61.1.2 virtual activemq::core::kernels::ActiveMQXASessionKernel::~ActiveMQXASessionKernel () `[virtual]`

6.61.2 Member Function Documentation

6.61.2.1 virtual void activemq::core::kernels::ActiveMQXASessionKernel::commit () `[virtual]`

Commits all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.

IllegalStateException - if the method is not called by a transacted session.

Reimplemented from **activemq::core::kernels::ActiveMQSessionKernel** (p. 451).

6.61.2.2 virtual void activemq::core::kernels::ActiveMQXASessionKernel::doStartTransaction () [virtual]

Starts if not already start a Transaction for this Session. If the session is not a Transacted Session then an exception is thrown. If a transaction is already in progress then this method has no effect.

Exceptions:

ActiveMQException if this is not a Transacted Session.

Reimplemented from **activemq::core::kernels::ActiveMQSessionKernel** (p. 457).

6.61.2.3 virtual cms::XAResource* activemq::core::kernels::ActiveMQXASessionKernel::getXAResource () const [virtual]

Returns the XA resource associated with this Session to the caller. The client can use the provided XA resource to interact with the XA Transaction Manager in use in the client application.

Returns:

an XAResouce instance to the caller, the caller does not own this pointer and should not delete it.

Implements **cms::XASession** (p. 3263).

6.61.2.4 virtual bool activemq::core::kernels::ActiveMQXASessionKernel::isAutoAcknowledge () const [virtual]

Reimplemented from **activemq::core::kernels::ActiveMQSessionKernel** (p. 460).

6.61.2.5 virtual bool activemq::core::kernels::ActiveMQXASessionKernel::isTransacted () const [virtual]

Gets if the Sessions is a Transacted Session.

Returns:

transacted true - false.

Exceptions:

CMSException - If an internal error occurs.

Reimplemented from **activemq::core::kernels::ActiveMQSessionKernel** (p. 461).

6.61.2.6 virtual void activemq::core::kernels::ActiveMQXASessionKernel::rollback () [virtual]

Rolls back all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.

IllegalStateException - if the method is not called by a transacted session.

Reimplemented from **activemq::core::kernels::ActiveMQSessionKernel** (p. 463).

The documentation for this class was generated from the following file:

- src/main/activemq/core/kernels/**ActiveMQXASessionKernel.h**

6.62 decaf::util::zip::Adler32 Class Reference

Clas that can be used to compute an Adler-32 **Checksum** (p. 950) for a data stream.

`#include <src/main/decaf/util/zip/Adler32.h>`Inheritance diagram for decaf::util::zip::Adler32:

Public Member Functions

- **Adler32** ()
- virtual ~**Adler32** ()
- virtual long long **getValue** () const
- virtual void **reset** ()

  Reset the checksum to its initial value.

- virtual void **update** (const std::vector< unsigned char > &buffer)

  Updates the current checksum with the specified vector of bytes.

- virtual void **update** (const std::vector< unsigned char > &buffer, int offset, int length)

  Updates the current checksum with the specified array of bytes.

- virtual void **update** (const unsigned char *buffer, int size, int offset, int length)

  Updates the current checksum with the specified array of bytes.

- virtual void **update** (int byte)

  Updates the current checksum with the specified byte value.

6.62.1 Detailed Description

Clas that can be used to compute an Adler-32 **Checksum** (p. 950) for a data stream. The Alder-32 checksum trades reliability for speed over the CRC-32 algorithm.

Since:

1.0

6.62.2 Constructor & Destructor Documentation

6.62.2.1 decaf::util::zip::Adler32::Adler32 ()

6.62.2.2 virtual decaf::util::zip::Adler32::~Adler32 () [virtual]

6.62.3 Member Function Documentation

6.62.3.1 virtual long long decaf::util::zip::Adler32::getValue () const [virtual]

Returns:

the current checksum value.

Implements **decaf::util::zip::Checksum** (p. 950).

6.62.3.2 virtual void decaf::util::zip::Adler32::reset () [virtual]

Reset the checksum to its initial value.

Implements **decaf::util::zip::Checksum** (p. 951).

6.62.3.3 virtual void decaf::util::zip::Adler32::update (int *byte*) [virtual]

Updates the current checksum with the specified byte value.

Parameters:

byte The byte value to update the current **Checksum** (p. 950) with (0..255).

Implements **decaf::util::zip::Checksum** (p. 951).

6.62.3.4 virtual void decaf::util::zip::Adler32::update (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Updates the current checksum with the specified array of bytes.

Parameters:

buffer The buffer to read the updated bytes from.

size The size of the passed buffer.

offset The position in the buffer to start reading.

length The amount of data to read from the byte buffer.

Exceptions:

NullPointerException if the passed buffer is NULL.

IndexOutOfBoundsException if offset + length > size of the buffer.

Implements **decaf::util::zip::Checksum** (p. 951).

6.62.3.5 virtual void decaf::util::zip::Adler32::update (const std::vector< unsigned char > & *buffer*, int *offset*, int *length*) [virtual]

Updates the current checksum with the specified array of bytes.

Parameters:

buffer The buffer to read the updated bytes from.

offset The position in the buffer to start reading.

length The amount of data to read from the byte buffer.

Exceptions:

IndexOutOfBoundsException if offset + length > size of the buffer.

Implements **decaf::util::zip::Checksum** (p. 951).

6.62.3.6 virtual void decaf::util::zip::Adler32::update (const std::vector< unsigned char > & *buffer*) [virtual]

Updates the current checksum with the specified vector of bytes.

Parameters:

buffer The buffer to read the updated bytes from.

Implements **decaf::util::zip::Checksum** (p. 952).

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**Adler32.h**

6.63 activemq::core::AdvisoryConsumer Class Reference

`#include <src/main/activemq/core/AdvisoryConsumer.h>`Inheritance diagram for activemq::core::AdvisoryConsumer:

Public Member Functions

- **AdvisoryConsumer** (**ActiveMQConnection** *connection, **Pointer**< **commands::ConsumerId** > consumerId)
- virtual ~**AdvisoryConsumer** ()
- void **dispose** ()
- virtual void **dispatch** (const **Pointer**< **MessageDispatch** > &message)

  Dispatches a message to a particular consumer.

- virtual int **getHashCode** () const

  *HashCode method allowing **Dispatcher** (p. 1400) instances to be used in HashMap etc.*

6.63.1 Constructor & Destructor Documentation

6.63.1.1 activemq::core::AdvisoryConsumer::AdvisoryConsumer (ActiveMQConnection * *connection*, Pointer< commands::ConsumerId > *consumerId*)

6.63.1.2 virtual activemq::core::AdvisoryConsumer::~AdvisoryConsumer () [virtual]

6.63.2 Member Function Documentation

6.63.2.1 virtual void activemq::core::AdvisoryConsumer::dispatch (const Pointer< MessageDispatch > & *message*) [virtual]

Dispatches a message to a particular consumer.

Parameters:

message The message to be dispatched to a waiting consumer.

Implements **activemq::core::Dispatcher** (p. 1400).

6.63.2.2 void activemq::core::AdvisoryConsumer::dispose ()

6.63.2.3 virtual int activemq::core::AdvisoryConsumer::getHashCode () const [virtual]

HashCode method allowing **Dispatcher** (p. 1400) instances to be used in HashMap etc.

Returns:

hash value for this **Dispatcher** (p. 1400).

Implements **activemq::core::Dispatcher** (p. 1400).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**AdvisoryConsumer.h**

6.64 activemq::util::AdvisorySupport Class Reference

Support class that provides various static constants for use in constructing Destination names for the ActiveMQ advisory destinations.

`#include <src/main/activemq/util/AdvisorySupport.h>`

Public Member Functions

- ~**AdvisorySupport** ()

Static Public Member Functions

- static **commands::ActiveMQDestination** * **getTempDestinationCompositeAdvisoryTopic** ()

  Returns a new Pointer to an Destination that will consume the advisory messages for both Temporary Topic and Temporary Queue creation on the broker.

- static **commands::ActiveMQDestination** * **getAllDestinationsCompositeAdvisoryTopic** ()

  Returns a new Pointer to an Destination that will consume the advisory messages for all Destinations created by the Broker, Queue, Topic, Temporary Queue and Temporary Topic.

- static std::vector< **commands::ActiveMQDestination** * > **getAllDestinationAdvisoryTopics** (const **cms::Destination** *destination)

  Returns a new vector that contains pointers to all the available advisory topics for the given destination.

- static std::vector< **commands::ActiveMQDestination** * > **getAllDestinationAdvisoryTopics** (const **commands::ActiveMQDestination** *destination)

  Returns a new vector that contains pointers to all the available advisory topics for the given destination.

- static **commands::ActiveMQDestination** * **getConnectionAdvisoryTopic** ()

  Returns a new Pointer to an Destination that will consume advisory messages for Connections.

- static **commands::ActiveMQDestination** * **getQueueAdvisoryTopic** ()

  Returns a new Pointer to an Destination that will consume advisory messages for Queues.

- static **commands::ActiveMQDestination** * **getTopicAdvisoryTopic** ()

  Returns a new Pointer to an Destination that will consume advisory messages for Topics.

- static **commands::ActiveMQDestination** * **getTempQueueAdvisoryTopic** ()

  Returns a new Pointer to an Destination that will consume advisory messages for Temporary Queues.

- static **commands::ActiveMQDestination** * **getTempTopicAdvisoryTopic** ()

  Returns a new Pointer to an Destination that will consume advisory messages for Temporary Topics.

- static **commands::ActiveMQDestination** * **getConsumerAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for Consumer events.

- static **commands::ActiveMQDestination** * **getConsumerAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for Consumer events.

- static **commands::ActiveMQDestination** * **getProducerAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for Producer events.

- static **commands::ActiveMQDestination** * **getProducerAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for Producer events.

- static **commands::ActiveMQDestination** * **getExpiredMessageTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getExpiredMessageTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getExpiredTopicMessageAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getExpiredTopicMessageAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getExpiredQueueMessageAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getExpiredQueueMessageAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getNoConsumersAdvisoryTopic** (const **cms::Destination** *destination)

Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getNoConsumersAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getNoTopicConsumersAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getNoTopicConsumersAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getNoQueueConsumersAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getNoQueueConsumersAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

- static **commands::ActiveMQDestination** * **getSlowConsumerAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for slow consumers of messages on the specified destination.

- static **commands::ActiveMQDestination** * **getSlowConsumerAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for slow consumers of messages on the specified destination.

- static **commands::ActiveMQDestination** * **getFastProducerAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for fast producers of messages on the specified destination.

- static **commands::ActiveMQDestination** * **getFastProducerAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for fast producers of messages on the specified destination.

- static **commands::ActiveMQDestination** * **getMessageDiscardedAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages when a message is discarded on the specified destination.

- static **commands::ActiveMQDestination** * **getMessageDiscardedAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages when a message is discarded on the specified destination.

- static **commands::ActiveMQDestination** * **getMessageDeliveredAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages when a message is dispatched to the specified destination.

- static **commands::ActiveMQDestination** * **getMessageDeliveredAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages when a message is dispatched to the specified destination.

- static **commands::ActiveMQDestination** * **getMessageConsumedAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages when a message is consumed from the specified destination.

- static **commands::ActiveMQDestination** * **getMessageConsumedAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages when a message is consumed from the specified destination.

- static **commands::ActiveMQDestination** * **getMessageDLQdAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages when a message is sent to the DLQ from the specified destination.

- static **commands::ActiveMQDestination** * **getMessageDLQdAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages when a message is sent to the DLQ from the specified destination.

- static **commands::ActiveMQDestination** * **getMasterBrokerAdvisoryTopic** ()

  Returns a new Pointer to an Destination that will consume advisory messages for Master Brokers.

- static **commands::ActiveMQDestination** * **getNetworkBridgeAdvisoryTopic** ()

  Returns a new Pointer to an Destination that will consume advisory messages for Network Bridges.

- static **commands::ActiveMQDestination** * **getFullAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages when the given destination has become full and cannot receive more messages.

- static **commands::ActiveMQDestination** * **getFullAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

Returns a new Pointer to an Destination that will consume advisory messages when the given destination has become full and cannot receive more messages.

- static **commands::ActiveMQDestination** * **getDestinationAdvisoryTopic** (const **cms::Destination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for events related to Destination such as create and delete.

- static **commands::ActiveMQDestination** * **getDestinationAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

  Returns a new Pointer to an Destination that will consume advisory messages for events related to Destination such as create and delete.

- static bool **isDestinationAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isDestinationAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isTempDestinationAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isTempDestinationAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isConnectionAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isConnectionAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isProducerAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isProducerAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isConsumerAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isConsumerAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isSlowConsumerAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isSlowConsumerAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isFastProducerAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isFastProducerAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isMessageConsumedAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isMessageConsumedAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isMasterBrokerAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isMasterBrokerAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isMessageDeliveredAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isMessageDeliveredAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isMessageDiscardedAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isMessageDiscardedAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isMessageDLQdAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isMessageDLQdAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isFullAdvisoryTopic** (const **cms::Destination** *destination)

- static bool **isFullAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)
- static bool **isNetworkBridgeAdvisoryTopic** (const **cms::Destination** *destination)
- static bool **isNetworkBridgeAdvisoryTopic** (const **commands::ActiveMQDestination** *destination)

Static Public Attributes

- static const std::string **ADVISORY_TOPIC_PREFIX**
- static const std::string **PRODUCER_ADVISORY_TOPIC_PREFIX**
- static const std::string **QUEUE_PRODUCER_ADVISORY_TOPIC_PREFIX**
- static const std::string **TOPIC_PRODUCER_ADVISORY_TOPIC_PREFIX**
- static const std::string **CONSUMER_ADVISORY_TOPIC_PREFIX**
- static const std::string **QUEUE_CONSUMER_ADVISORY_TOPIC_PREFIX**
- static const std::string **TOPIC_CONSUMER_ADVISORY_TOPIC_PREFIX**
- static const std::string **EXPIRED_TOPIC_MESSAGES_TOPIC_PREFIX**
- static const std::string **EXPIRED_QUEUE_MESSAGES_TOPIC_PREFIX**
- static const std::string **NO_TOPIC_CONSUMERS_TOPIC_PREFIX**
- static const std::string **NO_QUEUE_CONSUMERS_TOPIC_PREFIX**
- static const std::string **SLOW_CONSUMER_TOPIC_PREFIX**
- static const std::string **FAST_PRODUCER_TOPIC_PREFIX**
- static const std::string **MESSAGE_DISCAREDED_TOPIC_PREFIX**
- static const std::string **FULL_TOPIC_PREFIX**
- static const std::string **MESSAGE_DELIVERED_TOPIC_PREFIX**
- static const std::string **MESSAGE_CONSUMED_TOPIC_PREFIX**
- static const std::string **MESSAGE_DLQ_TOPIC_PREFIX**
- static const std::string **MASTER_BROKER_TOPIC_PREFIX**
- static const std::string **NETWORK_BRIDGE_TOPIC_PREFIX**
- static const std::string **AGENT_TOPIC**
- static const std::string **ADIVSORY_MESSAGE_TYPE**
- static const std::string **MSG_PROPERTY_ORIGIN_BROKER_ID**
- static const std::string **MSG_PROPERTY_ORIGIN_BROKER_NAME**
- static const std::string **MSG_PROPERTY_ORIGIN_BROKER_URL**
- static const std::string **MSG_PROPERTY_USAGE_NAME**
- static const std::string **MSG_PROPERTY_CONSUMER_ID**
- static const std::string **MSG_PROPERTY_PRODUCER_ID**
- static const std::string **MSG_PROPERTY_MESSAGE_ID**
- static const std::string **MSG_PROPERTY_CONSUMER_COUNT**
- static const std::string **MSG_PROPERTY_DISCARDED_COUNT**

6.64.1 Detailed Description

Support class that provides various static constants for use in constructing Destination names for the ActiveMQ advisory destinations. Methods that can create Advisory Topic instances for commonly used Advisory messages are also provided here.

6.64.2 Constructor & Destructor Documentation

6.64.2.1 activemq::util::AdvisorySupport::~AdvisorySupport ()

6.64.3 Member Function Documentation

6.64.3.1 static std::vector<commands::ActiveMQDestination*> activemq::util::AdvisorySupport::getAllDestinationAdvisoryTopics (const commands::ActiveMQDestination * *destination*) [static]

Returns a new vector that contains pointers to all the available advisory topics for the given destination.

Returns:

vector of all advisory topics that will receive events for the given destination..

6.64.3.2 static std::vector<commands::ActiveMQDestination*> activemq::util::AdvisorySupport::getAllDestinationAdvisoryTopics (const cms::Destination * *destination*) [static]

Returns a new vector that contains pointers to all the available advisory topics for the given destination.

Returns:

vector of all advisory topics that will receive events for the given destination..

6.64.3.3 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getAllDestinationsCompositeAdvisoryTopic () [static]

Returns a new Pointer to an Destination that will consume the advisory messages for all Destinations created by the Broker, Queue, Topic, Temporary Queue and Temporary Topic.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.4 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getConnectionAdvisoryTopic () [static]

Returns a new Pointer to an Destination that will consume advisory messages for Connections.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.5 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getConsumerAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for Consumer events.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.6 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getConsumerAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for Consumer events.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.7 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getDestinationAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for events related to Destination such as create and delete.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.8 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getDestinationAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for events related to Destination such as create and delete.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.9 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getExpiredMessageTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.10 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getExpiredMessageTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.11 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getExpiredQueueMessageAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.12 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getExpiredQueueMessageAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.13 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getExpiredTopicMessageAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.14 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getExpiredTopicMessageAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for expiration events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.15 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getFastProducerAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for fast producers of messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.16 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getFastProducerAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for fast producers of messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.17 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getFullAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when the given destination has become full and cannot receive more messages.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.18 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getFullAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when the given destination has become full and cannot receive more messages.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.19 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getMasterBrokerAdvisoryTopic () [static]

Returns a new Pointer to an Destination that will consume advisory messages for Master Brokers.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.20 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getMessageConsumedAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when a message is consumed from the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.21 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getMessageConsumedAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when a message is consumed from the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.22 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getMessageDeliveredAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when a message is dispatched to the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.23 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getMessageDeliveredAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when a message is dispatched to the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.24 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getMessageDiscardedAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when a message is discarded on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.25 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getMessageDiscardedAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when a message is discarded on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.26 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getMessageDLQdAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when a message is sent to the DLQ from the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.27 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getMessageDLQdAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages when a message is sent to the DLQ from the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.28 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getNetworkBridgeAdvisoryTopic () [static]

Returns a new Pointer to an Destination that will consume advisory messages for Network Bridges.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.29 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getNoConsumersAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.30 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getNoConsumersAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.31 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getNoQueueConsumersAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.32 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getNoQueueConsumersAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.33 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getNoTopicConsumersAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.34 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getNoTopicConsumersAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for no consumer events for messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.35 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getProducerAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for Producer events.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.36 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getProducerAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for Producer events.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.37 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getQueueAdvisoryTopic () [static]

Returns a new Pointer to an Destination that will consume advisory messages for Queues.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.38 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getSlowConsumerAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for slow consumers of messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.39 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getSlowConsumerAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns a new Pointer to an Destination that will consume advisory messages for slow consumers of messages on the specified destination.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.40 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getTempDestinationCompositeAdvisoryTopic () [static]

Returns a new Pointer to an Destination that will consume the advisory messages for both Temporary Topic and Temporary Queue creation on the broker.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.41 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getTempQueueAdvisoryTopic () [static]

Returns a new Pointer to an Destination that will consume advisory messages for Temporary Queues.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.42 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getTempTopicAdvisoryTopic () [static]

Returns a new Pointer to an Destination that will consume advisory messages for Temporary Topics.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.43 static commands::ActiveMQDestination* activemq::util::AdvisorySupport::getTopicAdvisoryTopic () [static]

Returns a new Pointer to an Destination that will consume advisory messages for Topics.

Returns:

Pointer to the requested Advisory Topic destination.

6.64.3.44 static bool activemq::util::AdvisorySupport::isAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an advisory topic.

6.64.3.45 static bool activemq::util::AdvisorySupport::isAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an advisory topic.

6.64.3.46 static bool activemq::util::AdvisorySupport::isConnectionAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Connection advisory topic.

6.64.3.47 static bool activemq::util::AdvisorySupport::isConnectionAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Connection advisory topic.

6.64.3.48 static bool activemq::util::AdvisorySupport::isConsumerAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Consumer advisory topic.

6.64.3.49 static bool activemq::util::AdvisorySupport::isConsumerAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Consumer advisory topic.

6.64.3.50 static bool activemq::util::AdvisorySupport::isDestinationAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is a Destination advisory topic.

6.64.3.51 static bool activemq::util::AdvisorySupport::isDestinationAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is a Destination advisory topic.

6.64.3.52 static bool activemq::util::AdvisorySupport::isFastProducerAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Fast Producer advisory topic.

6.64.3.53 static bool activemq::util::AdvisorySupport::isFastProducerAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Fast Producer advisory topic.

6.64.3.54 static bool activemq::util::AdvisorySupport::isFullAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Destination Full advisory topic.

6.64.3.55 static bool activemq::util::AdvisorySupport::isFullAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Destination Full advisory topic.

6.64.3.56 static bool activemq::util::AdvisorySupport::isMasterBrokerAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Master Broker Consumed advisory topic.

6.64.3.57 static bool activemq::util::AdvisorySupport::isMasterBrokerAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Master Broker advisory topic.

6.64.3.58 static bool activemq::util::AdvisorySupport::isMessageConsumedAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Message Consumed advisory topic.

6.64.3.59 static bool activemq::util::AdvisorySupport::isMessageConsumedAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Message Consumed advisory topic.

6.64.3.60 static bool activemq::util::AdvisorySupport::isMessageDeliveredAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Message Delivered advisory topic.

6.64.3.61 static bool activemq::util::AdvisorySupport::isMessageDeliveredAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Message Delivered advisory topic.

6.64.3.62 static bool activemq::util::AdvisorySupport::isMessageDiscardedAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Message Discarded advisory topic.

6.64.3.63 static bool activemq::util::AdvisorySupport::isMessageDiscardedAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Message Discarded advisory topic.

6.64.3.64 static bool activemq::util::AdvisorySupport::isMessageDLQdAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Message DLQ'd advisory topic.

6.64.3.65 static bool activemq::util::AdvisorySupport::isMessageDLQdAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Message DLQ'd advisory topic.

6.64.3.66 static bool activemq::util::AdvisorySupport::isNetworkBridgeAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Network Bridge advisory topic.

6.64.3.67 static bool activemq::util::AdvisorySupport::isNetworkBridgeAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Network Bridge advisory topic.

6.64.3.68 static bool activemq::util::AdvisorySupport::isProducerAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Producer advisory topic.

6.64.3.69 static bool activemq::util::AdvisorySupport::isProducerAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Producer advisory topic.

6.64.3.70 static bool activemq::util::AdvisorySupport::isSlowConsumerAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is an Slow Consumer advisory topic.

6.64.3.71 static bool activemq::util::AdvisorySupport::isSlowConsumerAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is an Slow Consumer advisory topic.

6.64.3.72 static bool activemq::util::AdvisorySupport::isTempDestinationAdvisoryTopic (const commands::ActiveMQDestination * *destination*) [static]

Returns:

true if the specified destination is a Temporary Destination advisory topic.

6.64.3.73 static bool activemq::util::AdvisorySupport::isTempDestinationAdvisoryTopic (const cms::Destination * *destination*) [static]

Returns:

true if the specified destination is a Temporary Destination advisory topic.

6.64.4 Field Documentation

6.64.4.1 const std::string activemq::util::AdvisorySupport::ADIVSORY_MESSAGE_TYPE [static]

6.64.4.2 const std::string activemq::util::AdvisorySupport::ADVISORY_TOPIC_PREFIX [static]

6.64.4.3 const std::string activemq::util::AdvisorySupport::AGENT_TOPIC [static]

6.64.4.4 const std::string activemq::util::AdvisorySupport::CONSUMER_ADVISORY_TOPIC_PREFIX [static]

6.64.4.5 const std::string activemq::util::AdvisorySupport::EXPIRED_QUEUE_MESSAGES_TOPIC_PREFIX [static]

6.64.4.6 const std::string activemq::util::AdvisorySupport::EXPIRED_TOPIC_MESSAGES_TOPIC_PREFIX [static]

6.64.4.7 const std::string activemq::util::AdvisorySupport::FAST_PRODUCER_TOPIC_PREFIX [static]

6.64.4.8 const std::string activemq::util::AdvisorySupport::FULL_TOPIC_PREFIX [static]

6.64.4.9 const std::string activemq::util::AdvisorySupport::MASTER_BROKER_TOPIC_PREFIX [static]

6.64.4.10 const std::string activemq::util::AdvisorySupport::MESSAGE_CONSUMED_TOPIC_PREFIX [static]

6.64.4.11 const std::string activemq::util::AdvisorySupport::MESSAGE_DELIVERED_TOPIC_PREFIX [static]

6.64.4.12 const std::string activemq::util::AdvisorySupport::MESSAGE_DISCAREDED_TOPIC_PREFIX [static]

6.64.4.13 const std::string activemq::util::AdvisorySupport::MESSAGE_DLQ_TOPIC_PREFIX [static]

6.64.4.14 const std::string activemq::util::AdvisorySupport::MSG_PROPERTY_CONSUMER_COUNT [static]

6.64.4.15 const std::string activemq::util::AdvisorySupport::MSG_PROPERTY_CONSUMER_ID [static]

6.64.4.16 const std::string activemq::util::AdvisorySupport::MSG_PROPERTY_DISCARDED_COUNT [static]

6.64.4.17 const std::string activemq::util::AdvisorySupport::MSG_PROPERTY_MESSAGE_ID [static]

6.64.4.18 const std::string activemq::util::AdvisorySupport::MSG_PROPERTY_ORIGIN_BROKER_ID [static]

6.64.4.19 const std::string activemq::util::AdvisorySupport::MSG_PROPERTY_ORIGIN_BROKER_NAME [static]

6.64.4.20 const std::string activemq::util::AdvisorySupport::MSG_PROPERTY_ORIGIN_BROKER_URL [static]

- src/main/activemq/util/**AdvisorySupport.h**

6.65 decaf::lang::Appendable Class Reference

An object to which char sequences and values can be appended.

`#include <src/main/decaf/lang/Appendable.h>`Inheritance diagram for decaf::lang::Appendable:

Public Member Functions

- virtual ~**Appendable** ()
- virtual **Appendable** & **append** (char value)=0

  Appends the specified character to this ***Appendable*** *(p. 574).*

- virtual **Appendable** & **append** (const **CharSequence** *csq)=0

  Appends the specified character sequence to this ***Appendable*** *(p. 574).*

- virtual **Appendable** & **append** (const **CharSequence** *csq, int start, int end)=0

  Appends a subsequence of the specified character sequence to this ***Appendable*** *(p. 574).*

6.65.1 Detailed Description

An object to which char sequences and values can be appended. The **Appendable** (p. 574) interface must be implemented by any class whose instances are intended to receive formatted output from a Formatter.

TODO The characters to be appended should be valid Unicode characters as described in Unicode **Character** (p. 908) Representation. Note that supplementary characters may be composed of multiple 16-bit char values.

Appendables are not necessarily safe for multithreaded access. **Thread** (p. 3000) safety is the responsibility of classes that extend and implement this interface.

Since this interface may be implemented by existing classes with different styles of error handling there is no guarantee that errors will be propagated to the invoker.

Since:

1.0

6.65.2 Constructor & Destructor Documentation

6.65.2.1 virtual decaf::lang::Appendable::~Appendable () [virtual]

6.65.3 Member Function Documentation

6.65.3.1 virtual Appendable& decaf::lang::Appendable::append (const CharSequence * *csq*, int *start*, int *end*) [pure virtual]

Appends a subsequence of the specified character sequence to this **Appendable** (p. 574).

Parameters:

csq - The character sequence from which a subsequence will be appended. If csq is NULL, then characters will be appended as if csq contained the string "null".

start The index of the first character in the subsequence.

end The index of the character following the last character in the subsequence.

Returns:

a Reference to this **Appendable** (p. 574)

Exceptions:

Exception (p. ***1445***) if an error occurs.

IndexOutOfBoundsException start is greater than end, or end is greater than csq.length()

Implemented in **decaf::io::Writer** (p. 3237), and **decaf::nio::CharBuffer** (p. 931).

6.65.3.2 virtual Appendable& decaf::lang::Appendable::append (const CharSequence * *csq*) [pure virtual]

Appends the specified character sequence to this **Appendable** (p. 574).

Parameters:

csq The character sequence from which a subsequence will be appended. If csq is NULL, then characters will be appended as if csq contained the string "null".

Returns:

a Reference to this **Appendable** (p. 574).

Exceptions:

Exception (p. ***1445***) if an error occurs.

Implemented in **decaf::io::Writer** (p. 3237), and **decaf::nio::CharBuffer** (p. 932).

6.65.3.3 virtual Appendable& decaf::lang::Appendable::append (char *value*) [pure virtual]

Appends the specified character to this **Appendable** (p. 574).

Parameters:

value The character to append.

Returns:

a Reference to this **Appendable** (p. 574)

Exceptions:

Exception (p. ***1445***) if an error occurs.

Implemented in **decaf::io::Writer** (p. 3238), and **decaf::nio::CharBuffer** (p. 932).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Appendable.h**

6.66 decaf::internal::AprPool Class Reference

Wraps an APR pool object so that classes in **decaf** (p. 95) can create a static member for use in static methods where apr function calls that need a pool are made.

`#include <src/main/decaf/internal/AprPool.h>`

Public Member Functions

- **AprPool** ()
- virtual ~**AprPool** ()
- apr_pool_t * **getAprPool** () const

  *Gets the **internal** (p. 96) APR Pool.*

- void **cleanup** ()

  Clears data that was allocated by this pool.

Static Public Member Functions

- static apr_pool_t * **getGlobalPool** ()

  Gets a pointer to the Global APR Pool used for the Application.

6.66.1 Detailed Description

Wraps an APR pool object so that classes in **decaf** (p. 95) can create a static member for use in static methods where apr function calls that need a pool are made.

6.66.2 Constructor & Destructor Documentation

6.66.2.1 decaf::internal::AprPool::AprPool ()

6.66.2.2 virtual decaf::internal::AprPool::~AprPool () `[virtual]`

6.66.3 Member Function Documentation

6.66.3.1 void decaf::internal::AprPool::cleanup ()

Clears data that was allocated by this pool. Users should call this after getting the data from the APR functions and copying it to someplace safe.

6.66.3.2 apr_pool_t* decaf::internal::AprPool::getAprPool () const

Gets the **internal** (p. 96) APR Pool.

Returns:

the **internal** (p. 96) APR pool

6.66.3.3 static apr_pool_t* decaf::internal::AprPool::getGlobalPool () [static]

Gets a pointer to the Global APR Pool used for the Application.

Returns:

pointer to the global APR Pool

The documentation for this class was generated from the following file:

- src/main/decaf/internal/**AprPool.h**

6.67 decaf::util::ArrayList< E > Class Template Reference

`#include <src/main/decaf/util/ArrayList.h>`Inheritance diagram for decaf::util::ArrayList< E >:

Public Member Functions

- **ArrayList** ()
- **ArrayList** (const **Collection**< E > &collection)
- **ArrayList** (const **ArrayList**< E > &arrayList)
- **ArrayList** (int initialCapacity)
- virtual ~**ArrayList** ()
- **ArrayList**< E > & **operator**= (const **ArrayList**< E > &list)

  Assignment Operator, copy element from the source collection to this collection after clearing any element stored in this collection.

- **ArrayList**< E > & **operator**= (const **Collection**< E > &collection)
- bool **operator**== (const **ArrayList**< E > &other) const
- bool **operator!**= (const **ArrayList**< E > &other) const
- void **ensureCapacity** (int minimumCapacity)

  *Increases the capacity of this **ArrayList** (p. 579) instance, if necessary, to ensure that it can hold at least the number of elements specified by the minimum capacity argument.*

- void **trimToSize** ()

  *Trims the **internal** (p. 96) array to match the current size of the **ArrayList** (p. 579).*

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **isEmpty** () const

  Returns true if this collection contains no elements.

- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual E **set** (int index, const E &element)

  Replaces the element at the specified position in this list with the specified element.

- virtual E **get** (int index) const

  Gets the element contained at position passed.

- virtual bool **add** (const E &value)

  Returns true if this collection changed as a result of the call.

- virtual void **add** (int index, const E &element)

  Inserts the specified element at the specified position in this list.

- virtual bool **addAll** (const **Collection**< E > &collection)

This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.
Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

- virtual bool **addAll** (int index, const **Collection**< E > &collection)

  Inserts all of the elements in the specified collection into this list at the specified position (optional operation).

- virtual bool **remove** (const E &value)

  Removes a single instance of the specified element from the collection.
  More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).
  Parameters:

  value *The reference to the element to remove from this* ***Collection*** *(*p. *1000).*
  Returns:

  true if the collection was changed, false otherwise.
  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(*p. *1000) is a container of pointers and does not allow NULL values.*

  This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.
  Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

- virtual E **removeAt** (int index)

  Removes the element at the specified position in this list.

- virtual bool **contains** (const E &value) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).
  Parameters:

  value *The value to check for presence in the collection.*
  Returns:

  true if there is at least one of the elements in the collection
  Exceptions:

  NullPointerException *if the* ***Collection*** *(*p. *1000) contains pointers and the* ***Collection*** *(*p. *1000) does not allow for NULL elements (optional check).*

  This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

- virtual int **indexOf** (const E &value) const

  Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual int **lastIndexOf** (const E &value) const

  Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual std::vector< E > **toArray** () const

  Answers an STL vector containing copies of all elements contained in this ***Collection*** *(p. 1000).*

- virtual std::string **toString** () const

template<typename E> class decaf::util::ArrayList< E >

6.67.1 Constructor & Destructor Documentation

6.67.1.1 template<typename E> decaf::util::ArrayList< E >::ArrayList () [inline]

6.67.1.2 template<typename E> decaf::util::ArrayList< E >::ArrayList (const Collection< E > & *collection*) [inline]

6.67.1.3 template<typename E> decaf::util::ArrayList< E >::ArrayList (const ArrayList< E > & *arrayList*) [inline]

6.67.1.4 template<typename E> decaf::util::ArrayList< E >::ArrayList (int *initialCapacity*) [inline]

6.67.1.5 template<typename E> virtual decaf::util::ArrayList< E >::~ArrayList () [inline, virtual]

6.67.2 Member Function Documentation

6.67.2.1 template<typename E> virtual void decaf::util::ArrayList< E >::add (int *index*, const E & *element*) [inline, virtual]

Inserts the specified element at the specified position in this list. Shifts the element currently at that position (if any) and any subsequent elements to the right (adds one to their indices).

Parameters:

index The index at which the specified element is to be inserted.

element The element to be inserted in this **List** (p. 1889).

Exceptions:

IndexOutOfBoundsException if the index is greater than size of the **List** (p. 1889).

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::List< E >** (p. 1890).

6.67.2.2 template<typename E> virtual bool decaf::util::ArrayList< E >::add (const E & *value*) [inline, virtual]

Returns true if this collection changed as a result of the call. (Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Reimplemented from **decaf::util::AbstractList< E >** (p. 158).

6.67.2.3 template<typename E> virtual bool decaf::util::ArrayList< E >::addAll (int *index*, const Collection< E > & *source*) [inline, virtual]

Inserts all of the elements in the specified collection into this list at the specified position (optional operation). Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

Parameters:

index The index at which to insert the first element from the specified collection

source The **Collection** (p. 1000) containing elements to be added to this list

Returns:

true if this list changed as a result of the call

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Reimplemented from **decaf::util::AbstractList< E >** (p. 159).

6.67.2.4 template<typename E> virtual bool decaf::util::ArrayList< E >::addAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty). This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 143).

Referenced by decaf::util::ArrayList< Pointer< ActiveMQDestination > >::operator=().

6.67.2.5 template<typename E> virtual void decaf::util::ArrayList< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractList< E >** (p. 160).

Referenced by decaf::util::ArrayList< Pointer< ActiveMQDestination > >::operator=().

6.67.2.6 template<typename E> virtual bool decaf::util::ArrayList< E >::contains (const E & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element. This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 145).

6.67.2.7 template<typename E> void decaf::util::ArrayList< E >::ensureCapacity (int *minimumCapacity*) [inline]

Increases the capacity of this **ArrayList** (p. 579) instance, if necessary, to ensure that it can hold at least the number of elements specified by the minimum capacity argument. If the capacity is already greater than or equal to the minimum capacity argument then the array is left unchanged.

Parameters:

minimumCapacity The desired minimum capacity for this **ArrayList** (p. 579).

Referenced by decaf::util::ArrayList< Pointer< ActiveMQDestination > >::ArrayList().

6.67.2.8 template<typename E> virtual E decaf::util::ArrayList< E >::get (int *index*) const [inline, virtual]

Gets the element contained at position passed.

Parameters:

index The position to get.

Returns:

value at index specified.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

Implements **decaf::util::List< E >** (p. 1892).

6.67.2.9 template<typename E> virtual int decaf::util::ArrayList< E >::indexOf (const E & *value*) const [inline, virtual]

Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the lowest index i such that get(i) == value, or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the first occurrence of the specified element in this list,

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Reimplemented from **decaf::util::AbstractList< E >** (p. 160).

Referenced by decaf::util::ArrayList< Pointer< ActiveMQDestination > >::contains(), and decaf::util::ArrayList< Pointer< ActiveMQDestination > >::remove().

6.67.2.10 template<typename E> virtual bool decaf::util::ArrayList< E >::isEmpty () const [inline, virtual]

Returns true if this collection contains no elements. This implementation returns **size()** (p. 588) == 0.

Returns:

true if the size method return 0.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

6.67.2.11 template<typename E> virtual int decaf::util::ArrayList< E >::lastIndexOf (const E & *value*) const [inline, virtual]

Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the highest index i such that get(i) == value or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the last occurrence of the specified element in this list.

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Reimplemented from **decaf::util::AbstractList< E >** (p. 162).

6.67.2.12 template<typename E> bool decaf::util::ArrayList< E >::operator!= (const ArrayList< E > & *other*) const [inline]

6.67.2.13 template<typename E> ArrayList<E>& decaf::util::ArrayList< E >::operator= (const Collection< E > & *collection*) [inline]

6.67.2.14 template<typename E> ArrayList<E>& decaf::util::ArrayList< E >::operator= (const ArrayList< E > & *collection*) [inline]

Assignment Operator, copy element from the source collection to this collection after clearing any element stored in this collection.

Parameters:

collection - the collection to copy

Returns:

a reference to this collection

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 148).

6.67.2.15 template<typename E> bool decaf::util::ArrayList< E >::operator== (const ArrayList< E > & *other*) const [inline]

6.67.2.16 template<typename E> virtual bool decaf::util::ArrayList< E >::remove (const E & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object. This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 149).

6.67.2.17 template<typename E> virtual E decaf::util::ArrayList< E >::removeAt (int *index*) [inline, virtual]

Removes the element at the specified position in this list. Shifts any subsequent elements to the left (subtracts one from their indices). Returns the element that was removed from the list.

Parameters:

index - the index of the element to be removed.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

Reimplemented from **decaf::util::AbstractList< E >** (p. 165).

Referenced by decaf::util::ArrayList< Pointer< ActiveMQDestination > >::remove().

6.67.2.18 template<typename E> virtual E decaf::util::ArrayList< E >::set (int *index*, const E & *element*) [inline, virtual]

Replaces the element at the specified position in this list with the specified element.

Parameters:

index The index of the element to replace.

element The element to be stored at the specified position.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::List< E >** (p. 1898).

6.67.2.19 template<typename E> virtual int decaf::util::ArrayList< E >::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< E >** (p. 1009).

Referenced by decaf::util::ArrayList< Pointer< ActiveMQDestination > >::ArrayList().

6.67.2.20 template<typename E> virtual std::vector<E> decaf::util::ArrayList< E >::toArray () const [inline, virtual]

Answers an STL vector containing copies of all elements contained in this **Collection** (p. 1000). All the elements in the array will not be referenced by the collection. The elements in the returned array will be sorted to the same order as those returned by the iterator of this collection itself if the collection guarantees the order.

Returns:

an vector of copies of all the elements from this **Collection** (p. 1000)

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 150).

6.67.2.21 template<typename E> virtual std::string decaf::util::ArrayList< E >::toString () const [inline, virtual]

6.67.2.22 template<typename E> void decaf::util::ArrayList< E >::trimToSize () [inline]

Trims the **internal** (p. 96) array to match the current size of the **ArrayList** (p. 579). This compacts the **internal** (p. 96) array to save storage space used by this **ArrayList** (p. 579).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**ArrayList.h**

6.68 decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator Class Reference

`#include <src/main/decaf/util/concurrent/CopyOnWriteArrayList.h>`Inheritance diagram for decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator:

Public Member Functions

- **ArrayListIterator** (**decaf::lang::Pointer**< Array > array, int index)
- virtual ~**ArrayListIterator** ()
- virtual E **next** ()

  Returns the next element in the iteration.

- virtual bool **hasNext** () const

  Returns true if the iteration has more elements.

- virtual void **remove** ()

  Removes from the underlying collection the last element returned by the iterator (optional operation).

- virtual void **add** (const E &e DECAF_UNUSED)
- virtual void **set** (const E &e DECAF_UNUSED)
- virtual bool **hasPrevious** () const

  Returns true if this list iterator has more elements when traversing the list in the reverse direction.

- virtual E **previous** ()

  Returns the previous element in the list.

- virtual int **nextIndex** () const

  Returns the index of the element that would be returned by a subsequent call to next.

- virtual int **previousIndex** () const

  Returns the index of the element that would be returned by a subsequent call to previous.

template<typename E> class decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator

6.68.1 Constructor & Destructor Documentation

6.68.1.1 template<typename E> decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::ArrayListIterator (decaf::lang::Pointer< Array > *array*, int *index*) `[inline]`

6.68.1.2 template<typename E> virtual decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::~ArrayListIterator () `[inline, virtual]`

References NULL, and decaf::lang::Pointer< T, REFCOUNTER >::reset().

6.68.2 Member Function Documentation

6.68.2.1 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::add (const E &e *DECAF_UNUSED*) [inline, virtual]

6.68.2.2 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::hasNext () const [inline, virtual]

Returns true if the iteration has more elements. Returns false if the next call to next would result in an **NoSuchElementException** (p. 2247) to be thrown.

Returns:

true if there are more elements available for iteration.

Implements **decaf::util::Iterator< E >** (p. 1789).

6.68.2.3 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::hasPrevious () const [inline, virtual]

Returns true if this list iterator has more elements when traversing the list in the reverse direction. (In other words, returns true if previous would return an element rather than throwing an exception.)

Returns:

true if the list iterator has more elements when traversing the list in the reverse direction.

Implements **decaf::util::ListIterator< E >** (p. 1901).

6.68.2.4 template<typename E> virtual E decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::next () [inline, virtual]

Returns the next element in the iteration. Calling this method repeatedly until the **hasNext()** (p. 590) method returns false will return each element in the underlying collection exactly once.

Returns:

the next element in the iteration of elements.

Exceptions:

NoSuchElementException *(p. 2247)* if the iteration has no more elements.

Implements **decaf::util::Iterator< E >** (p. 1790).

6.68.2.5 template<typename E> virtual int decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::nextIndex () const [inline, virtual]

Returns the index of the element that would be returned by a subsequent call to next. (Returns list size if the list iterator is at the end of the list.)

Returns:

the index of the element that would be returned by a subsequent call to next, or list size if list iterator is at end of list.

Implements **decaf::util::ListIterator< E >** (p. 1901).

6.68.2.6 template<typename E> virtual E decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::previous () [inline, virtual]

Returns the previous element in the list. This method may be called repeatedly to iterate through the list backwards, or intermixed with calls to next to go back and forth. (Note that alternating calls to next and previous will return the same element repeatedly.)

Returns:

the previous element in the list.

Exceptions:

NoSuchElementException *(p. 2247)* if the iteration has no previous element.

Implements **decaf::util::ListIterator< E >** (p. 1902).

6.68.2.7 template<typename E> virtual int decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::previousIndex () const [inline, virtual]

Returns the index of the element that would be returned by a subsequent call to previous. (Returns -1 if the list iterator is at the beginning of the list.)

Returns:

the index of the element that would be returned by a subsequent call to previous, or -1 if list iterator is at beginning of list.

Implements **decaf::util::ListIterator< E >** (p. 1902).

6.68.2.8 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::remove () [inline, virtual]

Removes from the underlying collection the last element returned by the iterator (optional operation). This method can be called only once per call to next. The behavior of an iterator is unspecified if the underlying collection is modified while the iteration is in progress in any way other than by calling this method.

Exceptions:

UnsupportedOperationException if the remove operation is not supported by this **Iterator** (p. 1789).

IllegalStateException if the next method has not yet been called, or the remove method has already been called after the last call to the next method.

Implements **decaf::util::Iterator< E >** (p. 1790).

6.68.2.9 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::set (const E &e *DECAF_UNUSED*) [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**CopyOnWriteArrayList.h**

6.69 decaf::lang::ArrayPointer< T > Class Template Reference

Decaf's implementation of a Smart **Pointer** (p. 2355) that is a template on a Type and is **Thread** (p. 3000) Safe if the default Reference Counter is used.

`#include <src/main/decaf/lang/ArrayPointer.h>`

Data Structures

- struct **ArrayData**

Public Types

- typedef T * **PointerType**
- typedef T & **ReferenceType**
- typedef const T & **ConstReferenceType**

Public Member Functions

- **ArrayPointer** ()

  Default Constructor.

- **ArrayPointer** (int size)

  *Create a new **ArrayPointer** (p. 593) instance and allocates an **internal** (p. 96) array that is sized using the passed in size value.*

- **ArrayPointer** (int size, const T &fillWith)

  *Create a new **ArrayPointer** (p. 593) instance and allocates an **internal** (p. 96) array that is sized using the passed in size value.*

- **ArrayPointer** (const **PointerType** value, int size)

  *Explicit Constructor, creates an **ArrayPointer** (p. 593) that contains value with a single reference.*

- **ArrayPointer** (const **ArrayPointer** &value)

  Copy constructor.

- virtual ~**ArrayPointer** ()
- void **reset** (T *value, int size=0)

  *Resets the **ArrayPointer** (p. 593) to hold the new value.*

- T * **release** ()

  *Releases the **Pointer** (p. 2355) held and resets the **internal** (p. 96) pointer value to Null.*

- **PointerType get** () const

  *Gets the real array pointer that is contained within this **Pointer** (p. 2355).*

- int **length** () const

Returns the current size of the contained array or zero if the array is NULL.

- void **swap** (**ArrayPointer** &value)

  Exception *(p. 1445) Safe Swap Function.*

- **ArrayPointer clone** () const

  Creates a new ***ArrayPointer*** *(p. 593) instance that is a clone of the value contained in this* ***ArrayPointer*** *(p. 593).*

- **ArrayPointer** & **operator**= (const **ArrayPointer** &right)

  Assigns the value of right to this ***Pointer*** *(p. 2355) and increments the reference Count.*

- template<typename T1 >
  ArrayPointer & **operator**= (const **ArrayPointer**< T1 > &right)
- **ReferenceType operator[]** (int index)

  Dereference Operator, returns a reference to the Contained value.

- **ConstReferenceType operator[]** (int index) const
- bool **operator!** () const
- template<typename T1 >
  bool **operator**== (const **ArrayPointer**< T1 > &right) const
- template<typename T1 >
  bool **operator!**= (const **ArrayPointer**< T1 > &right) const

Friends

- bool **operator**== (const **ArrayPointer** &left, const T *right)
- bool **operator**== (const T *left, const **ArrayPointer** &right)
- bool **operator!**= (const **ArrayPointer** &left, const T *right)
- bool **operator!**= (const T *left, const **ArrayPointer** &right)

6.69.1 Detailed Description

template<typename T> class decaf::lang::ArrayPointer< T >

Decaf's implementation of a Smart **Pointer** (p. 2355) that is a template on a Type and is **Thread** (p. 3000) Safe if the default Reference Counter is used. This **Pointer** (p. 2355) type allows for the substitution of different Reference Counter implementations which provide a means of using invasive reference counting if desired using a custom implementation of `ReferenceCounter`.

The Decaf smart pointer provide comparison operators for comparing **Pointer** (p. 2355) instances in the same manner as normal pointer, except that it does not provide an overload of operators (<, <=, >, >=). To allow use of a **Pointer** (p. 2355) in a STL container that requires it, **Pointer** (p. 2355) provides an implementation of std::less.

Since:

1.0

6.69.2 Member Typedef Documentation

6.69.2.1 template<typename T> typedef const T& decaf::lang::ArrayPointer< T >::ConstReferenceType

6.69.2.2 template<typename T> typedef T* decaf::lang::ArrayPointer< T >::PointerType

6.69.2.3 template<typename T> typedef T& decaf::lang::ArrayPointer< T >::ReferenceType

6.69.3 Constructor & Destructor Documentation

6.69.3.1 template<typename T> decaf::lang::ArrayPointer< T >::ArrayPointer () [inline]

Default Constructor. Initialized the contained array pointer to NULL, using the subscript operator results in an exception unless reset to contain a real value.

Referenced by decaf::lang::ArrayPointer< HashMapEntry * >::clone(), and decaf::lang::ArrayPointer< HashMapEntry * >::reset().

6.69.3.2 template<typename T> decaf::lang::ArrayPointer< T >::ArrayPointer (int *size*) [inline]

Create a new **ArrayPointer** (p. 593) instance and allocates an **internal** (p. 96) array that is sized using the passed in size value.

Parameters:

size The size of the array to allocate for this **ArrayPointer** (p. 593) instance.

6.69.3.3 template<typename T> decaf::lang::ArrayPointer< T >::ArrayPointer (int *size*, const T & *fillWith*) [inline]

Create a new **ArrayPointer** (p. 593) instance and allocates an **internal** (p. 96) array that is sized using the passed in size value. The array elements are initialized with the given value.

Parameters:

size The size of the array to allocate for this **ArrayPointer** (p. 593) instance.

fillWith The value to initialize each element of the newly allocated array with.

6.69.3.4 template<typename T> decaf::lang::ArrayPointer< T >::ArrayPointer (const PointerType *value*, int *size*) [inline, explicit]

Explicit Constructor, creates an **ArrayPointer** (p. 593) that contains value with a single reference. This object now has ownership until a call to release.

Parameters:

value The pointer to the instance of the array we are taking ownership of.

size The size of the array this object is taking ownership of.

6.69.3.5 template<typename T> decaf::lang::ArrayPointer< T >::ArrayPointer (const ArrayPointer< T > & *value*) [inline]

Copy constructor. Copies the value contained in the **ArrayPointer** (p. 593) to the new instance and increments the reference counter.

6.69.3.6 template<typename T> virtual decaf::lang::ArrayPointer< T >::~ArrayPointer () [inline, virtual]

6.69.4 Member Function Documentation

6.69.4.1 template<typename T> ArrayPointer decaf::lang::ArrayPointer< T >::clone () const [inline]

Creates a new **ArrayPointer** (p. 593) instance that is a clone of the value contained in this **ArrayPointer** (p. 593).

Returns:

an **ArrayPointer** (p. 593) that contains a copy of the data in this **ArrayPointer** (p. 593).

6.69.4.2 template<typename T> PointerType decaf::lang::ArrayPointer< T >::get () const [inline]

Gets the real array pointer that is contained within this **Pointer** (p. 2355). This is not really safe since the caller could delete or alter the pointer but it mimics the STL auto_ptr and gives access in cases where the caller absolutely needs the real **Pointer** (p. 2355). Use at your own risk.

Returns:

the contained pointer.

Referenced by decaf::lang::ArrayPointer< HashMapEntry * >::clone(), decaf::lang::ArrayPointerComparator< T >::compare(), decaf::lang::operator!=(), decaf::lang::ArrayPointer< HashMapEntry * >::operator!=(), std::less< decaf::lang::ArrayPointer< T > >::operator()(), decaf::lang::ArrayPointerComparator< T >::operator()(), decaf::lang::operator==(), and decaf::lang::ArrayPointer< HashMapEntry * >::operator==().

6.69.4.3 template<typename T> int decaf::lang::ArrayPointer< T >::length () const [inline]

Returns the current size of the contained array or zero if the array is NULL.

Returns:

the size of the array or zero if the array is NULL

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::clear(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::containsValue(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::copy(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::getEntry(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl(),

decaf::util::HashMap< E, Set< E > *, HASHCODE >::rehash(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::removeEntry(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::~HashMap().

6.69.4.4 template<typename T> bool decaf::lang::ArrayPointer< T >::operator! () const [inline]

6.69.4.5 template<typename T> template<typename T1 > bool decaf::lang::ArrayPointer< T >::operator!= (const ArrayPointer< T1 > & *right*) const [inline]

6.69.4.6 template<typename T> template<typename T1 > ArrayPointer& decaf::lang::ArrayPointer< T >::operator= (const ArrayPointer< T1 > & *right*) [inline]

6.69.4.7 template<typename T> ArrayPointer& decaf::lang::ArrayPointer< T >::operator= (const ArrayPointer< T > & *right*) [inline]

Assigns the value of right to this **Pointer** (p. 2355) and increments the reference Count.

Parameters:

right - **Pointer** (p. 2355) on the right hand side of an operator= call to this.

6.69.4.8 template<typename T> template<typename T1 > bool decaf::lang::ArrayPointer< T >::operator== (const ArrayPointer< T1 > & *right*) const [inline]

6.69.4.9 template<typename T> ConstReferenceType decaf::lang::ArrayPointer< T >::operator[] (int *index*) const [inline]

6.69.4.10 template<typename T> ReferenceType decaf::lang::ArrayPointer< T >::operator[] (int *index*) [inline]

Dereference Operator, returns a reference to the Contained value. This method throws an NullPointerException if the contained value is NULL.

Returns:

reference to the contained pointer.

Exceptions:

NullPointerException if the contained value is Null

6.69.4.11 template<typename T> T* decaf::lang::ArrayPointer< T >::release () [inline]

Releases the **Pointer** (p. 2355) held and resets the **internal** (p. 96) pointer value to Null. This method is not guaranteed to be safe if the **Pointer** (p. 2355) is held by more than one object or this method is called from more than one thread.

Parameters:

value - The new value to contain.

Returns:

The pointer instance that was held by this **Pointer** (p. 2355) object, the pointer is no longer owned by this **Pointer** (p. 2355) and won't be freed when this **Pointer** (p. 2355) goes out of scope.

6.69.4.12 template<typename T> void decaf::lang::ArrayPointer< T >::reset (T * *value*, int *size* = 0) [inline]

Resets the **ArrayPointer** (p. 593) to hold the new value. Before the new value is stored reset checks if the old value should be destroyed and if so calls delete. Call reset with a value of NULL is supported and acts to set this **Pointer** (p. 2355) to a NULL pointer.

Parameters:

value The new array pointer value to contain.

size The size of the new array value this object now contains.

6.69.4.13 template<typename T> void decaf::lang::ArrayPointer< T >::swap (ArrayPointer< T > & *value*) [inline]

Exception (p. 1445) Safe Swap Function.

Parameters:

value - the value to swap with this.

Referenced by decaf::lang::ArrayPointer< HashMapEntry * >::operator=(), and decaf::lang::ArrayPointer< HashMapEntry * >::swap().

6.69.5 Friends And Related Function Documentation

6.69.5.1 template<typename T> bool operator!= (const T * *left*, const ArrayPointer< T > & *right*) [friend]

6.69.5.2 template<typename T> bool operator!= (const ArrayPointer< T > & *left*, const T * *right*) [friend]

6.69.5.3 template<typename T> bool operator== (const T * *left*, const ArrayPointer< T > & *right*) [friend]

6.69.5.4 template<typename T> bool operator== (const ArrayPointer< T > & *left*, const T * *right*) [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**ArrayPointer.h**

6.70 decaf::lang::ArrayPointerComparator< T > Class Template Reference

This implementation of Comparator is designed to allows objects in a Collection to be sorted or tested for equality based on the value of the value of the actual pointer to the array being contained in this **ArrayPointer** (p. 593).

`#include <src/main/decaf/lang/ArrayPointer.h>`Inheritance diagram for decaf::lang::ArrayPointerComparator< T >:

Public Member Functions

- virtual ~**ArrayPointerComparator** ()
- virtual bool **operator()** (const **ArrayPointer**< T > &left, const **ArrayPointer**< T > &right) const
- virtual int **compare** (const **ArrayPointer**< T > &left, const **ArrayPointer**< T > &right) const

6.70.1 Detailed Description

template<typename T> class decaf::lang::ArrayPointerComparator< T >

This implementation of Comparator is designed to allows objects in a Collection to be sorted or tested for equality based on the value of the value of the actual pointer to the array being contained in this **ArrayPointer** (p. 593). This allows for a basic ordering to be acheived in Decaf containers.

Custom implementations are possible where an array of some type has a logical natural ordering such as array of integers where the sum of all ints in the array is used.

6.70.2 Constructor & Destructor Documentation

6.70.2.1 template<typename T > virtual decaf::lang::ArrayPointerComparator< T >::~ArrayPointerComparator () [inline, virtual]

6.70.3 Member Function Documentation

6.70.3.1 template<typename T > virtual int decaf::lang::ArrayPointerComparator< T >::compare (const ArrayPointer< T > & *left*, const ArrayPointer< T > & *right*) const [inline, virtual]

References decaf::lang::ArrayPointer< T >::get().

6.70.3.2 template<typename T > virtual bool decaf::lang::ArrayPointerComparator< T >::operator() (const ArrayPointer< T > & *left*, const ArrayPointer< T > & *right*) const [inline, virtual]

References decaf::lang::ArrayPointer< T >::get().

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**ArrayPointer.h**

6.71 decaf::util::Arrays Class Reference

`#include <src/main/decaf/util/Arrays.h>`

Public Member Functions

- virtual ~**Arrays** ()

Static Public Member Functions

- template<typename E >
  static void **fill** (E *array, int size, const E &value)

  Fills an array with the specified element.

- template<typename E >
  static void **fill** (E *array, int size, int start, int end, const E &value)

  Fills an array with the specified element within the range given.

6.71.1 Constructor & Destructor Documentation

6.71.1.1 virtual decaf::util::Arrays::~Arrays () [virtual]

6.71.2 Member Function Documentation

6.71.2.1 template<typename E > static void decaf::util::Arrays::fill (E * *array*, int *size*, int *start*, int *end*, const E & *value*) [inline, static]

Fills an array with the specified element within the range given.

Parameters:

array The Array to fill.

size The actual size of the array passed.

start The index to start the fill from (inclusive).

end The index to fill to (exclusive).

value The value to fill the array with.

Exceptions:

NullPointerException if array is Null.

IllegalArgumentException if the size parameter is negative, or the start index is greater than the end index.

IndexOutOfBoundsException if the start index is negative or the end index is greater than the size parameter.

References NULL.

6.71.2.2 template<typename E > static void decaf::util::Arrays::fill (E * *array*, int *size*, const E & *value*) [inline, static]

Fills an array with the specified element.

Parameters:

array The Array to fill.

size The actual size of the array passed.

value The value to fill the array with.

Exceptions:

NullPointerException if array is Null.

IllegalArgumentException if the size parameter is negative, or the start index is greater than the end index.

References NULL.

Referenced by decaf::lang::ArrayPointer< HashMapEntry * >::ArrayPointer().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Arrays.h**

6.72 cms::AsyncCallback Class Reference

Asynchronous event interface for CMS asynchronous operations.

`#include <src/main/cms/AsyncCallback.h>`Inheritance diagram for cms::AsyncCallback:

Public Member Functions

- virtual ~**AsyncCallback** ()
- virtual void **onSuccess** ()=0

  Called when the asynchronous operation has completed successfully.

6.72.1 Detailed Description

Asynchronous event interface for CMS asynchronous operations. For operations in CMS that allow for Asynchronous execution the caller provides an instance of this interface. If the asynchronous action is successful the onSuccess method is invoked, otherwise the onException method of **cms::ExceptionListener** (p. 1452) is called.

Since:

3.0

6.72.2 Constructor & Destructor Documentation

6.72.2.1 virtual cms::AsyncCallback::~AsyncCallback () `[virtual]`

6.72.3 Member Function Documentation

6.72.3.1 virtual void cms::AsyncCallback::onSuccess () `[pure virtual]`

Called when the asynchronous operation has completed successfully.

The documentation for this class was generated from the following file:

- src/main/cms/**AsyncCallback.h**

6.73 decaf::util::concurrent::atomic::AtomicBoolean Class Reference

A boolean value that may be updated atomically.

`#include <src/main/decaf/util/concurrent/atomic/AtomicBoolean.h>`

Public Member Functions

- **AtomicBoolean** ()
  *Creates a new **AtomicBoolean** (p. 604) whose initial value is false.*
- **AtomicBoolean** (bool initialValue)
  *Creates a new **AtomicBoolean** (p. 604) with the initial value.*
- virtual ~**AtomicBoolean** ()
- bool **get** () const
  *Gets the current value of this **AtomicBoolean** (p. 604).*
- void **set** (bool newValue)
  Unconditionally sets to the given value.
- bool **compareAndSet** (bool expect, bool update)
  Atomically sets the value to the given updated value if the current value == the expected value.
- bool **getAndSet** (bool newValue)
  Atomically sets to the given value and returns the previous value.
- std::string **toString** () const
  Returns the String representation of the current value.

6.73.1 Detailed Description

A boolean value that may be updated atomically. An **AtomicBoolean** (p. 604) is used in applications such as atomically updated flags, and cannot be used as a replacement for a Boolean.

6.73.2 Constructor & Destructor Documentation

6.73.2.1 decaf::util::concurrent::atomic::AtomicBoolean::AtomicBoolean ()

Creates a new **AtomicBoolean** (p. 604) whose initial value is false.

6.73.2.2 decaf::util::concurrent::atomic::AtomicBoolean::AtomicBoolean (bool *initialValue*)

Creates a new **AtomicBoolean** (p. 604) with the initial value.

Parameters:

initialValue - The initial value of this boolean.

6.73.2.3 virtual decaf::util::concurrent::atomic::AtomicBoolean::~AtomicBoolean () [inline, virtual]

6.73.3 Member Function Documentation

6.73.3.1 bool decaf::util::concurrent::atomic::AtomicBoolean::compareAndSet (bool *expect*, bool *update*)

Atomically sets the value to the given updated value if the current value == the expected value.

Parameters:

expect - the expected value

update - the new value

Returns:

true if successful. False return indicates that the actual value was not equal to the expected value.

6.73.3.2 bool decaf::util::concurrent::atomic::AtomicBoolean::get () const [inline]

Gets the current value of this **AtomicBoolean** (p. 604).

Returns:

the currently set value.

6.73.3.3 bool decaf::util::concurrent::atomic::AtomicBoolean::getAndSet (bool *newValue*)

Atomically sets to the given value and returns the previous value.

Parameters:

newValue - the new value

Returns:

the previous value

6.73.3.4 void decaf::util::concurrent::atomic::AtomicBoolean::set (bool *newValue*) [inline]

Unconditionally sets to the given value.

Parameters:

newValue - the new value

6.73.3.5 std::string decaf::util::concurrent::atomic::AtomicBoolean::toString () const

Returns the String representation of the current value.

Returns:

the String representation of the current value.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/atomic/**AtomicBoolean.h**

6.74 decaf::util::concurrent::atomic::AtomicInteger Class Reference

An int value that may be updated atomically.

`#include <src/main/decaf/util/concurrent/atomic/AtomicInteger.h>`Inheritance diagram for decaf::util::concurrent::atomic::AtomicInteger:

Public Member Functions

- **AtomicInteger** ()

  *Create a new **AtomicInteger** (p. 607) with an initial value of 0.*

- **AtomicInteger** (int initialValue)

  *Create a new **AtomicInteger** (p. 607) with the given initial value.*

- virtual ~**AtomicInteger** ()
- int **get** () const

  Gets the current value.

- void **set** (int newValue)

  Sets to the given value.

- int **getAndSet** (int newValue)

  Atomically sets to the given value and returns the old value.

- bool **compareAndSet** (int expect, int update)

  Atomically sets the value to the given updated value if the current value == the expected value.

- int **getAndIncrement** ()

  Atomically increments by one the current value.

- int **getAndDecrement** ()

  Atomically decrements by one the current value.

- int **getAndAdd** (int delta)

  Atomically adds the given value to the current value.

- int **incrementAndGet** ()

  Atomically increments by one the current value.

- int **decrementAndGet** ()

  Atomically decrements by one the current value.

- int **addAndGet** (int delta)

  Atomically adds the given value to the current value.

- std::string **toString** () const

Returns the String representation of the current value.

- int **intValue** () const

  Description copied from class: Number Returns the value of the specified number as an int.

- long long **longValue** () const

  Description copied from class: Number Returns the value of the specified number as a long.

- float **floatValue** () const

  Description copied from class: Number Returns the value of the specified number as a float.

- double **doubleValue** () const

  Description copied from class: Number Returns the value of the specified number as a double.

6.74.1 Detailed Description

An int value that may be updated atomically. An **AtomicInteger** (p. 607) is used in applications such as atomically incremented counters, and cannot be used as a replacement for an Integer. However, this class does extend Number to allow uniform access by tools and utilities that deal with numerically-based classes.

6.74.2 Constructor & Destructor Documentation

6.74.2.1 decaf::util::concurrent::atomic::AtomicInteger::AtomicInteger ()

Create a new **AtomicInteger** (p. 607) with an initial value of 0.

6.74.2.2 decaf::util::concurrent::atomic::AtomicInteger::AtomicInteger (int *initialValue*)

Create a new **AtomicInteger** (p. 607) with the given initial value.

Parameters:

initialValue - The initial value of this object.

6.74.2.3 virtual decaf::util::concurrent::atomic::AtomicInteger::~AtomicInteger () [inline, virtual]

6.74.3 Member Function Documentation

6.74.3.1 int decaf::util::concurrent::atomic::AtomicInteger::addAndGet (int *delta*)

Atomically adds the given value to the current value.

Parameters:

delta - the value to add.

Returns:

the updated value.

6.74.3.2 bool decaf::util::concurrent::atomic::AtomicInteger::compareAndSet (int *expect*, int *update*)

Atomically sets the value to the given updated value if the current value == the expected value.

Parameters:

expect - the expected value

update - the new value

Returns:

true if successful. False return indicates that the actual value was not equal to the expected value.

6.74.3.3 int decaf::util::concurrent::atomic::AtomicInteger::decrementAndGet ()

Atomically decrements by one the current value.

Returns:

the updated value.

Referenced by decaf::util::concurrent::atomic::AtomicRefCounter::release().

6.74.3.4 double decaf::util::concurrent::atomic::AtomicInteger::doubleValue () const [virtual]

Description copied from class: Number Returns the value of the specified number as a double. This may involve rounding.

Returns:

the numeric value represented by this object after conversion to type double.

Implements **decaf::lang::Number** (p. 2257).

6.74.3.5 float decaf::util::concurrent::atomic::AtomicInteger::floatValue () const [virtual]

Description copied from class: Number Returns the value of the specified number as a float. This may involve rounding.

Returns:

the numeric value represented by this object after conversion to type float.

Implements **decaf::lang::Number** (p. 2257).

6.74.3.6 int decaf::util::concurrent::atomic::AtomicInteger::get () const [inline]

Gets the current value.

Returns:

the current value.

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::drainTo(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::offer(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::peek(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::poll(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::put(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::remainingCapacity(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::size(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::take(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::toArray(), and decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::toString().

6.74.3.7 int decaf::util::concurrent::atomic::AtomicInteger::getAndAdd (int *delta*)

Atomically adds the given value to the current value.

Parameters:

delta - The value to add.

Returns:

the previous value.

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::drainTo().

6.74.3.8 int decaf::util::concurrent::atomic::AtomicInteger::getAndDecrement ()

Atomically decrements by one the current value.

Returns:

the previous value.

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::poll(), and decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::take().

6.74.3.9 int decaf::util::concurrent::atomic::AtomicInteger::getAndIncrement ()

Atomically increments by one the current value.

Returns:

the previous value.

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::offer(), and decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::put().

6.74.3.10 int decaf::util::concurrent::atomic::AtomicInteger::getAndSet (int *newValue*)

Atomically sets to the given value and returns the old value.

Parameters:

newValue - the new value.

Returns:

the previous value.

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::clear().

6.74.3.11 int decaf::util::concurrent::atomic::AtomicInteger::incrementAndGet ()

Atomically increments by one the current value.

Returns:

the updated value.

Referenced by decaf::util::concurrent::atomic::AtomicRefCounter::AtomicRefCounter().

6.74.3.12 int decaf::util::concurrent::atomic::AtomicInteger::intValue () const [virtual]

Description copied from class: Number Returns the value of the specified number as an int. This may involve rounding or truncation.

Returns:

the numeric value represented by this object after conversion to type int.

Implements **decaf::lang::Number** (p. 2257).

6.74.3.13 long long decaf::util::concurrent::atomic::AtomicInteger::longValue () const [virtual]

Description copied from class: Number Returns the value of the specified number as a long. This may involve rounding or truncation.

Returns:

the numeric value represented by this object after conversion to type long long.

Implements **decaf::lang::Number** (p. 2257).

6.74.3.14 void decaf::util::concurrent::atomic::AtomicInteger::set (int *newValue*) [inline]

Sets to the given value.

Parameters:

newValue - the new value

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::clear().

6.74.3.15 std::string decaf::util::concurrent::atomic::AtomicInteger::toString () const

Returns the String representation of the current value.

Returns:

the String representation of the current value.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/atomic/**AtomicInteger.h**

6.75 decaf::util::concurrent::atomic::AtomicRefCounter Class Reference

`#include <src/main/decaf/util/concurrent/atomic/AtomicRefCounter.h>`

Inherited by **decaf::lang::Pointer< activemq::core::kernels::ActiveMQConsumerKernel >**, **decaf::lang::Pointer< activemq::core::kernels::ActiveMQProducerKernel >**, **decaf::lang::Pointer< activemq::core::kernels::ActiveMQSessionKernel >**, **decaf::lang::Pointer< activemq::core::kernels::ActiveMQXASessionKernel >**, **decaf::lang::Pointer< activemq::threads::TaskRunner >**, **decaf::lang::Pointer< ActiveMQDestination >**, **decaf::lang::Pointer< ActiveMQTransactionContext >**, **decaf::lang::Pointer< Array >**, **decaf::lang::Pointer< BooleanExpression >**, **decaf::lang::Pointer< BrokerError >**, **decaf::lang::Pointer< BrokerId >**, **decaf::lang::Pointer< ByteArrayAdapter >**, **decaf::lang::Pointer< Callable< T > >**, **decaf::lang::Pointer< CloseTransportsTask >**, **decaf::lang::Pointer< cms::Destination >**, **decaf::lang::Pointer< commands::ActiveMQDestination >**, **decaf::lang::Pointer< commands::ConsumerId >**, **decaf::lang::Pointer< commands::ConsumerInfo >**, **decaf::lang::Pointer< commands::Message >**, **decaf::lang::Pointer< commands::ProducerInfo >**, **decaf::lang::Pointer< commands::SessionInfo >**, **decaf::lang::Pointer< commands::WireFormatInfo >**, **decaf::lang::Pointer< Comparator< E > >**, **decaf::lang::Pointer< CompositeTaskRunner >**, **decaf::lang::Pointer< ConnectionId >**, **decaf::lang::Pointer< ConnectionInfo >**, **decaf::lang::Pointer< ConstHashMapEntrySet >**, **decaf::lang::Pointer< ConstHashMapKeySet >**, **decaf::lang::Pointer< ConstHashMapValueCollection >**, **decaf::lang::Pointer< ConstStlMapEntrySet >**, **decaf::lang::Pointer< ConstStlMapKeySet >**, **decaf::lang::Pointer< ConstStlMapValueCollection >**, **decaf::lang::Pointer< ConsumerId >**, **decaf::lang::Pointer< ConsumerInfo >**, **decaf::lang::Pointer< core::ActiveMQAckHandler >**, **decaf::lang::Pointer< DataStructure >**, **decaf::lang::Pointer< decaf::lang::Exception >**, **decaf::lang::Pointer< decaf::lang::Runnable >**, **decaf::lang::Pointer< decaf::lang::Thread >**, **decaf::lang::Pointer< decaf::util::concurrent::locks::Condition >**, **decaf::lang::Pointer< FutureTaskSync >**, **decaf::lang::Pointer< HashMapEntrySet >**, **decaf::lang::Pointer< HashMapKeySet >**, **decaf::lang::Pointer< HashMapValueCollection >**, **decaf::lang::Pointer< locks::Condition >**, **decaf::lang::Pointer< Message >**, **decaf::lang::Pointer< MessageAck >**, **decaf::lang::Pointer< MessageDispatchChannel >**, **decaf::lang::Pointer< MessageId >**, **decaf::lang::Pointer< ProducerId >**, **decaf::lang::Pointer< ProducerInfo >**, **decaf::lang::Pointer< Properties >**, **decaf::lang::Pointer< QueueNode< E > >**, **decaf::lang::Pointer< QueueNode< Pointer< Transport > > >**, **decaf::lang::Pointer< Response >**, **decaf::lang::Pointer< ResponseBuilder >**, **decaf::lang::Pointer< ResponseCallback >**, **decaf::lang::Pointer< SessionId >**, **decaf::lang::Pointer< SessionInfo >**, **decaf::lang::Pointer< StlMapEntrySet >**, **decaf::lang::Pointer< StlMapKeySet >**, **decaf::lang::Pointer< StlMapValueCollection >**, **decaf::lang::Pointer< TransactionId >**, **decaf::lang::Pointer< TransactionState >**, **decaf::lang::Pointer< Transport >**, **decaf::lang::Pointer< URIPool >**, and **decaf::lang::Pointer< wireformat::WireFormat >**.

Public Member Functions

- **AtomicRefCounter** ()
- **AtomicRefCounter** (const **AtomicRefCounter** &other)
- virtual ~**AtomicRefCounter** ()

Protected Member Functions

- void **swap** (**AtomicRefCounter** &other)

  Swaps this instance's reference counter with the one given, this allows for copy-and-swap semantics of this object.

- bool **release** ()

  Removes a reference to the counter Atomically and returns if the counter has reached zero, once the counter hits zero, the ***internal*** *(p. 96) counter is destroyed and this instance is now considered to be unreferenced.*

6.75.1 Constructor & Destructor Documentation

6.75.1.1 decaf::util::concurrent::atomic::AtomicRefCounter::AtomicRefCounter () [inline]

6.75.1.2 decaf::util::concurrent::atomic::AtomicRefCounter::AtomicRefCounter (const AtomicRefCounter & *other*) [inline]

References decaf::util::concurrent::atomic::AtomicInteger::incrementAndGet().

6.75.1.3 virtual decaf::util::concurrent::atomic::AtomicRefCounter::~AtomicRefCounter () [inline, virtual]

6.75.2 Member Function Documentation

6.75.2.1 bool decaf::util::concurrent::atomic::AtomicRefCounter::release () [inline, protected]

Removes a reference to the counter Atomically and returns if the counter has reached zero, once the counter hits zero, the **internal** (p. 96) counter is destroyed and this instance is now considered to be unreferenced.

Returns:

true if the count is now zero.

Reimplemented in **decaf::lang::Pointer< MessageAck >** (p. 2360), **decaf::lang::Pointer< FutureTaskSync >** (p. 2360), **decaf::lang::Pointer< BooleanExpression >** (p. 2360), **decaf::lang::Pointer< commands::ConsumerId >** (p. 2360), **decaf::lang::Pointer< locks::Condition >** (p. 2360), **decaf::lang::Pointer< activemq::core::kernels::ActiveMQXASessionKernel >** (p. 2360), **decaf::lang::Pointer< BrokerError >** (p. 2360), **decaf::lang::Pointer< decaf::lang::Exception >** (p. 2360), **decaf::lang::Pointer< Transport >** (p. 2360), **decaf::lang::Pointer< wireformat::WireFormat >** (p. 2360), **decaf::lang::Pointer< ConstStlMapEntrySet >** (p. 2360), **decaf::lang::Pointer< StlMapKeySet >** (p. 2360), **decaf::lang::Pointer< ActiveMQTransactionContext >** (p. 2360), **decaf::lang::Pointer< MessageDispatchChannel >** (p. 2360), **decaf::lang::Pointer< commands::WireFormatInfo >** (p. 2360), **decaf::lang::Pointer< CloseTransportsTask >** (p. 2360), **decaf::lang::Pointer< CompositeTaskRunner >** (p. 2360), **decaf::lang::Pointer< ResponseCallback >** (p. 2360), **decaf::lang::Pointer< commands::SessionInfo >** (p. 2360), **decaf::lang::Pointer<**

commands::ProducerInfo > (p. 2360), **decaf::lang::Pointer< QueueNode< Pointer< Transport > > >** (p. 2360), **decaf::lang::Pointer< Comparator< E > >** (p. 2360), **decaf::lang::Pointer< BrokerId >** (p. 2360), **decaf::lang::Pointer< Message >** (p. 2360), **decaf::lang::Pointer< StlMapValueCollection >** (p. 2360), **decaf::lang::Pointer< DataStructure >** (p. 2360), **decaf::lang::Pointer< activemq::threads::TaskRunner >** (p. 2360), **decaf::lang::Pointer< activemq::core::kernels::ActiveMQConsumerKernel >** (p. 2360), **decaf::lang::Pointer< commands::ActiveMQDestination >** (p. 2360), **decaf::lang::Pointer< ConstHashMapKeySet >** (p. 2360), **decaf::lang::Pointer< ConsumerInfo >** (p. 2360), **decaf::lang::Pointer< ConnectionId >** (p. 2360), **decaf::lang::Pointer< decaf::lang::Runnable >** (p. 2360), **decaf::lang::Pointer< decaf::util::concurrent::locks::Condition >** (p. 2360), **decaf::lang::Pointer< Properties >** (p. 2360), **decaf::lang::Pointer< Array >** (p. 2360), **decaf::lang::Pointer< ProducerInfo >** (p. 2360), **decaf::lang::Pointer< activemq::core::kernels::ActiveMQSessionKernel >** (p. 2360), **decaf::lang::Pointer< decaf::lang::Thread >** (p. 2360), **decaf::lang::Pointer< MessageId >** (p. 2360), **decaf::lang::Pointer< StlMapEntrySet >** (p. 2360), **decaf::lang::Pointer< activemq::core::kernels::ActiveMQProducerKernel >** (p. 2360), **decaf::lang::Pointer< QueueNode< E > >** (p. 2360), **decaf::lang::Pointer< Response >** (p. 2360), **decaf::lang::Pointer< SessionId >** (p. 2360), **decaf::lang::Pointer< cms::Destination >** (p. 2360), **decaf::lang::Pointer< ConstHashMapValueCollection >** (p. 2360), **decaf::lang::Pointer< ActiveMQDestination >** (p. 2360), **decaf::lang::Pointer< ConstStlMapKeySet >** (p. 2360), **decaf::lang::Pointer< ProducerId >** (p. 2360), **decaf::lang::Pointer< ConstHashMapEntrySet >** (p. 2360), **decaf::lang::Pointer< ResponseBuilder >** (p. 2360), **decaf::lang::Pointer< SessionInfo >** (p. 2360), **decaf::lang::Pointer< commands::Message >** (p. 2360), **decaf::lang::Pointer< HashMapValueCollection >** (p. 2360), **decaf::lang::Pointer< HashMapEntrySet >** (p. 2360), **decaf::lang::Pointer< HashMapKeySet >** (p. 2360), **decaf::lang::Pointer< ConnectionInfo >** (p. 2360), **decaf::lang::Pointer< Callable< T > >** (p. 2360), **decaf::lang::Pointer< core::ActiveMQAckHandler >** (p. 2360), **decaf::lang::Pointer< TransactionState >** (p. 2360), **decaf::lang::Pointer< commands::ConsumerInfo >** (p. 2360), **decaf::lang::Pointer< ConsumerId >** (p. 2360), **decaf::lang::Pointer< ConstStlMapValueCollection >** (p. 2360), **decaf::lang::Pointer< URIPool >** (p. 2360), **decaf::lang::Pointer< ByteArrayAdapter >** (p. 2360), and **decaf::lang::Pointer< TransactionId >** (p. 2360).

References decaf::util::concurrent::atomic::AtomicInteger::decrementAndGet().

6.75.2.2 void decaf::util::concurrent::atomic::AtomicRefCounter::swap (AtomicRefCounter & *other*) [inline, protected]

Swaps this instance's reference counter with the one given, this allows for copy-and-swap semantics of this object.

Parameters:

other The value to swap with this one's.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/atomic/**AtomicRefCounter.h**

6.76 decaf::util::concurrent::atomic::AtomicReference< T > Class Template Reference

An Pointer reference that may be updated atomically.

`#include <src/main/decaf/util/concurrent/atomic/AtomicReference.h>`

Public Member Functions

- **AtomicReference** ()
- **AtomicReference** (T *value)
- virtual ~**AtomicReference** ()
- T * **get** () const

  Gets the Current Value.

- void **set** (T *newValue)

  Sets the Current value of this Reference.

- bool **compareAndSet** (T *expect, T *update)

  Atomically sets the value to the given updated value if the current value == the expected value.

- T * **getAndSet** (T *newValue)

  Atomically sets to the given value and returns the old value.

- std::string **toString** () const

  Returns the String representation of the current value.

6.76.1 Detailed Description

template<typename T> class decaf::util::concurrent::atomic::AtomicReference< T >

An Pointer reference that may be updated atomically.

6.76.2 Constructor & Destructor Documentation

6.76.2.1 template<typename T > decaf::util::concurrent::atomic::AtomicReference< T >::AtomicReference () [inline]

6.76.2.2 template<typename T > decaf::util::concurrent::atomic::AtomicReference< T >::AtomicReference (T * *value*) [inline]

6.76.2.3 template<typename T > virtual decaf::util::concurrent::atomic::AtomicReference< T >::~AtomicReference () [inline, virtual]

6.76.3 Member Function Documentation

6.76.3.1 template<typename T > bool decaf::util::concurrent::atomic::AtomicReference< T >::compareAndSet (T * *expect*, T * *update*) [inline]

Atomically sets the value to the given updated value if the current value == the expected value.

Parameters:

expect - the expected value

update - the new value

Returns:

true if successful. False return indicates that the actual value was not equal to the expected value.

6.76.3.2 template<typename T > T* decaf::util::concurrent::atomic::AtomicReference< T >::get () const [inline]

Gets the Current Value.

Returns:

the current value of this Reference.

6.76.3.3 template<typename T > T* decaf::util::concurrent::atomic::AtomicReference< T >::getAndSet (T * *newValue*) [inline]

Atomically sets to the given value and returns the old value.

Parameters:

newValue- the new value

Returns:

the previous value.

Referenced by decaf::util::concurrent::atomic::AtomicReference< T >::set().

6.76.3.4 template<typename T > void decaf::util::concurrent::atomic::AtomicReference< T >::set (T * *newValue*) [inline]

Sets the Current value of this Reference.

Parameters:

newValue The new Value of this Reference.

References decaf::util::concurrent::atomic::AtomicReference< T >::getAndSet().

6.76.3.5 template<typename T > std::string decaf::util::concurrent::atomic::AtomicReference< T >::toString () const [inline]

Returns the String representation of the current value.

Returns:

string representation of the current value.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/atomic/**AtomicReference.h**

6.77 decaf::internal::util::concurrent::Atomics Class Reference

`#include <src/main/decaf/internal/util/concurrent/Atomics.h>`

Static Public Member Functions

- template<typename T >
  static bool **compareAndSwap** (T *&target, T *expect, T *update)
- static bool **compareAndSet32** (volatile int *target, int expect, int update)
- static bool **compareAndSet** (volatile void **target, void *expect, void *update)
- static void * **getAndSet** (volatile void **target, void *value)
- static int **getAndSet** (volatile int *target, int value)
- static int **getAndIncrement** (volatile int *target)
- static int **getAndDecrement** (volatile int *target)
- static int **getAndAdd** (volatile int *target, int delta)
- static int **addAndGet** (volatile int *target, int delta)
- static int **incrementAndGet** (volatile int *target)
- static int **decrementAndGet** (volatile int *target)

Friends

- class **Threading**

6.77.1 Member Function Documentation

6.77.1.1 static int decaf::internal::util::concurrent::Atomics::addAndGet (volatile int * *target*, int *delta*) [static]

6.77.1.2 static bool decaf::internal::util::concurrent::Atomics::compareAndSet (volatile void ** *target*, void * *expect*, void * *update*) [static]

Referenced by compareAndSwap().

6.77.1.3 static bool decaf::internal::util::concurrent::Atomics::compareAndSet32 (volatile int * *target*, int *expect*, int *update*) [static]

6.77.1.4 template<typename T > static bool decaf::internal::util::concurrent::Atomics::compareAndSwap (T *& *target*, T * *expect*, T * *update*) [inline, static]

References compareAndSet().

6.77.1.5 static int decaf::internal::util::concurrent::Atomics::decrementAndGet (volatile int * *target*) [static]

6.77.1.6 static int decaf::internal::util::concurrent::Atomics::getAndAdd (volatile int * *target*, int *delta*) [static]

6.77.1.7 static int decaf::internal::util::concurrent::Atomics::getAndDecrement (volatile int * *target*) [static]

6.77.1.8 static int decaf::internal::util::concurrent::Atomics::getAndIncrement (volatile int * *target*) [static]

6.77.1.9 static int decaf::internal::util::concurrent::Atomics::getAndSet (volatile int * *target*, int *value*) [static]

6.77.1.10 static void* decaf::internal::util::concurrent::Atomics::getAndSet (volatile void ** *target*, void * *value*) [static]

6.77.1.11 static int decaf::internal::util::concurrent::Atomics::incrementAndGet (volatile int * *target*) [static]

6.77.2 Friends And Related Function Documentation

6.77.2.1 friend class Threading [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**Atomics.h**

6.78 activemq::transport::failover::BackupTransport Class Reference

`#include <src/main/activemq/transport/failover/BackupTransport.h>`Inheritance diagram for activemq::transport::failover::BackupTransport:

Public Member Functions

- **BackupTransport** (**BackupTransportPool** *failover)
- virtual ~**BackupTransport** ()
- **decaf::net::URI getUri** () const

  Gets the URI assigned to this Backup.

- void **setUri** (const **decaf::net::URI** &uri)

  *Sets the URI assigned to this **Transport** (p. 3109).*

- const **Pointer**< **Transport** > & **getTransport** ()

  *Gets the currently held **transport** (p. 72).*

- void **setTransport** (const **Pointer**< **Transport** > transport)

  *Sets the held **transport** (p. 72), if not NULL then start to listen for **exceptions** (p. 67) from the held **transport** (p. 72).*

- virtual void **onException** (const **decaf::lang::Exception** &ex)

  *Event handler for an exception from a command **transport** (p. 72).*

- bool **isClosed** () const

  *Has the **Transport** (p. 3109) been shutdown and no longer usable.*

- void **setClosed** (bool value)

  *Sets the closed flag on this **Transport** (p. 3109).*

- bool **isPriority** () const
- void **setPriority** (bool value)

  *Set if this **transport** (p. 72) is a Priority backup or not.*

6.78.1 Constructor & Destructor Documentation

6.78.1.1 activemq::transport::failover::BackupTransport::BackupTransport (BackupTransportPool * *failover*)

6.78.1.2 virtual activemq::transport::failover::BackupTransport::~BackupTransport () [virtual]

6.78.2 Member Function Documentation

6.78.2.1 const Pointer<Transport>& activemq::transport::failover::BackupTransport::getTransport () [inline]

Gets the currently held **transport** (p. 72).

Returns:

pointer to the held **transport** (p. 72) or NULL if not set.

6.78.2.2 decaf::net::URI activemq::transport::failover::BackupTransport::getUri () const [inline]

Gets the URI assigned to this Backup.

Returns:

the assigned URI

6.78.2.3 bool activemq::transport::failover::BackupTransport::isClosed () const [inline]

Has the **Transport** (p. 3109) been shutdown and no longer usable.

Returns:

true if the **Transport** (p. 3109)

6.78.2.4 bool activemq::transport::failover::BackupTransport::isPriority () const [inline]

Returns:

true if this **transport** (p. 72) was in the priority backup list.

6.78.2.5 virtual void activemq::transport::failover::BackupTransport::onException (const decaf::lang::Exception & *ex*) [virtual]

Event handler for an exception from a command **transport** (p. 72). The **BackupTransport** (p. 621) closes its internal **Transport** (p. 3109) when an exception is received and returns the URI to the pool of URIs to attempt connections to.

Parameters:

ex The exception that was passed to this listener to handle.

Implements **activemq::transport::TransportListener** (p. 3131).

6.78.2.6 void activemq::transport::failover::BackupTransport::setClosed (bool *value*) [inline]

Sets the closed flag on this **Transport** (p. 3109).

Parameters:

value - true for closed.

6.78.2.7 void activemq::transport::failover::BackupTransport::setPriority (bool *value*) [inline]

Set if this **transport** (p. 72) is a Priority backup or not.

Parameters:

value True if this is a priority backup.

6.78.2.8 void activemq::transport::failover::BackupTransport::setTransport (const Pointer< Transport > *transport*) [inline]

Sets the held **transport** (p. 72), if not NULL then start to listen for **exceptions** (p. 67) from the held **transport** (p. 72).

Parameters:

transport *(p. 72)* The **transport** (p. 72) to hold.

References NULL.

6.78.2.9 void activemq::transport::failover::BackupTransport::setUri (const decaf::net::URI & *uri*) [inline]

Sets the URI assigned to this **Transport** (p. 3109).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/failover/**BackupTransport.h**

6.79 activemq::transport::failover::BackupTransportPool Class Reference

`#include <src/main/activemq/transport/failover/BackupTransportPool.h>`Inheritance diagram for activemq::transport::failover::BackupTransportPool:

Public Member Functions

- **BackupTransportPool** (**FailoverTransport** *parent, const **Pointer**< **CompositeTaskRunner** > taskRunner, const **Pointer**< **CloseTransportsTask** > closeTask, const **Pointer**< **URIPool** > uriPool, const **Pointer**< **URIPool** > updates, const **Pointer**< **URIPool** > priorityUriPool)
- **BackupTransportPool** (**FailoverTransport** *parent, int backupPoolSize, const **Pointer**< **CompositeTaskRunner** > taskRunner, const **Pointer**< **CloseTransportsTask** > closeTask, const **Pointer**< **URIPool** > uriPool, const **Pointer**< **URIPool** > updates, const **Pointer**< **URIPool** > priorityUriPool)
- virtual ~**BackupTransportPool** ()
- void **close** ()

  Closes down the pool and destroys any Backups contained in the pool.

- virtual bool **isPending** () const

  Return true if we don't currently have enough Connected Transports.

- **Pointer**< **BackupTransport** > **getBackup** ()

  *Get a Connected **Transport** (p. 3109) from the pool of Backups if any are present, otherwise it return a NULL Pointer.*

- virtual bool **iterate** ()

  Connect to a Backup Broker if we haven't already connected to the max number of Backups.

- int **getBackupPoolSize** () const

  Gets the Max number of Backups this Task will create.

- void **setBackupPoolSize** (int size)

  Sets the Max number of Backups this Task will create.

- bool **isEnabled** () const

  *Gets if the backup **Transport** (p. 3109) Pool has been enabled or not, when not enabled no backups are created and any that were are destroyed.*

- void **setEnabled** (bool value)

  *Sets if this Backup **Transport** (p. 3109) Pool is enabled.*

- bool **isPriorityBackupAvailable** () const

  Returns true if there is a Backup in the pool that's on the priority backups list.

Friends

- class **BackupTransport**

6.79.1 Constructor & Destructor Documentation

6.79.1.1 activemq::transport::failover::BackupTransportPool::BackupTransportPool (FailoverTransport * *parent*, const Pointer< CompositeTaskRunner > *taskRunner*, const Pointer< CloseTransportsTask > *closeTask*, const Pointer< URIPool > *uriPool*, const Pointer< URIPool > *updates*, const Pointer< URIPool > *priorityUriPool*)

6.79.1.2 activemq::transport::failover::BackupTransportPool::BackupTransportPool (FailoverTransport * *parent*, int *backupPoolSize*, const Pointer< CompositeTaskRunner > *taskRunner*, const Pointer< CloseTransportsTask > *closeTask*, const Pointer< URIPool > *uriPool*, const Pointer< URIPool > *updates*, const Pointer< URIPool > *priorityUriPool*)

6.79.1.3 virtual activemq::transport::failover::BackupTransportPool::~BackupTransportPool () [virtual]

6.79.2 Member Function Documentation

6.79.2.1 void activemq::transport::failover::BackupTransportPool::close ()

Closes down the pool and destroys any Backups contained in the pool.

6.79.2.2 Pointer<BackupTransport> activemq::transport::failover::BackupTransportPool::getBackup ()

Get a Connected **Transport** (p. 3109) from the pool of Backups if any are present, otherwise it return a NULL Pointer.

Returns:

Pointer to a Connected **Transport** (p. 3109) or NULL

6.79.2.3 int activemq::transport::failover::BackupTransportPool::getBackupPoolSize () const [inline]

Gets the Max number of Backups this Task will create.

Returns:

the max number of active BackupTransports that will be created.

6.79.2.4 bool activemq::transport::failover::BackupTransportPool::isEnabled () const [inline]

Gets if the backup **Transport** (p. 3109) Pool has been enabled or not, when not enabled no backups are created and any that were are destroyed.

Returns:

true if enable.

6.79.2.5 virtual bool activemq::transport::failover::BackupTransportPool::isPending () const [virtual]

Return true if we don't currently have enough Connected Transports.

Implements **activemq::threads::CompositeTask** (p. 1039).

6.79.2.6 bool activemq::transport::failover::BackupTransportPool::isPriorityBackupAvailable () const

Returns true if there is a Backup in the pool that's on the priority backups list.

Returns:

true if there is a priority backup available.

6.79.2.7 virtual bool activemq::transport::failover::BackupTransportPool::iterate () [virtual]

Connect to a Backup Broker if we haven't already connected to the max number of Backups.

Implements **activemq::threads::Task** (p. 2973).

6.79.2.8 void activemq::transport::failover::BackupTransportPool::setBackupPoolSize (int *size*) [inline]

Sets the Max number of Backups this Task will create.

Parameters:

size - the max number of active BackupTransports that will be created.

6.79.2.9 void activemq::transport::failover::BackupTransportPool::setEnabled (bool *value*)

Sets if this Backup **Transport** (p. 3109) Pool is enabled. When not enabled no Backups are created and any that were are destroyed.

Parameters:

value - true to enable backup creation, false to disable.

6.79.3 Friends And Related Function Documentation

6.79.3.1 friend class BackupTransport [friend]

The documentation for this class was generated from the following file:

- src/main/activemq/transport/failover/**BackupTransportPool.h**

6.80 activemq::commands::BaseCommand Class Reference

`#include <src/main/activemq/commands/BaseCommand.h>`Inheritance diagram for activemq::commands::BaseCommand:

Public Member Functions

- **BaseCommand** ()
- virtual ~**BaseCommand** ()
- virtual void **setCommandId** (int id)

  *Sets the **Command** (p. 1013) Id of this **Message** (p. 2059).*

- virtual int **getCommandId** () const

  *Gets the **Command** (p. 1013) Id of this **Message** (p. 2059).*

- virtual void **setResponseRequired** (const bool required)

  *Set if this **Message** (p. 2059) requires a **Response** (p. 2591).*

- virtual bool **isResponseRequired** () const

  *Is a **Response** (p. 2591) required for this **Command** (p. 1013).*

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual bool **isBrokerInfo** () const
- virtual bool **isControlCommand** () const
- virtual bool **isConnectionControl** () const
- virtual bool **isConnectionError** () const
- virtual bool **isConnectionInfo** () const
- virtual bool **isConsumerInfo** () const
- virtual bool **isConsumerControl** () const
- virtual bool **isDestinationInfo** () const
- virtual bool **isFlushCommand** () const
- virtual bool **isMessage** () const
- virtual bool **isMessageAck** () const
- virtual bool **isMessagePull** () const
- virtual bool **isKeepAliveInfo** () const
- virtual bool **isMessageDispatch** () const
- virtual bool **isMessageDispatchNotification** () const
- virtual bool **isProducerAck** () const
- virtual bool **isProducerInfo** () const
- virtual bool **isResponse** () const
- virtual bool **isRemoveInfo** () const

- virtual bool **isRemoveSubscriptionInfo** () const
- virtual bool **isReplayCommand** () const
- virtual bool **isSessionInfo** () const
- virtual bool **isShutdownInfo** () const
- virtual bool **isTransactionInfo** () const
- virtual bool **isWireFormatInfo** () const

6.80.1 Constructor & Destructor Documentation

6.80.1.1 activemq::commands::BaseCommand::BaseCommand () [inline]

6.80.1.2 virtual activemq::commands::BaseCommand::~BaseCommand () [inline, virtual]

6.80.2 Member Function Documentation

6.80.2.1 virtual void activemq::commands::BaseCommand::copyDataStructure (const DataStructure * *src*) [inline, virtual]

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 205), **activemq::commands::ActiveMQBytesMessage** (p. 216), **activemq::commands::ActiveMQMapMessage** (p. 344), **activemq::commands::ActiveMQMessage** (p. 360), **activemq::commands::ActiveMQObjectMessage** (p. 380), **activemq::commands::ActiveMQStreamMessage** (p. 472), **activemq::commands::ActiveMQTextMessage** (p. 514), **activemq::commands::BrokerError** (p. 705), **activemq::commands::BrokerInfo** (p. 719), **activemq::commands::ConnectionControl** (p. 1091), **activemq::commands::ConnectionError** (p. 1101), **activemq::commands::ConnectionInfo** (p. 1125), **activemq::commands::ConsumerControl** (p. 1159), **activemq::commands::ConsumerInfo** (p. 1178), **activemq::commands::ControlCommand** (p. 1191), **activemq::commands::DataArrayResponse** (p. 1233), **activemq::commands::DataResponse** (p. 1275), **activemq::commands::DestinationInfo** (p. 1376), **activemq::commands::ExceptionResponse** (p. 1454), **activemq::commands::FlushCommand** (p. 1550), **activemq::commands::IntegerResponse** (p. 1741), **activemq::commands::KeepAliveInfo** (p. 1822), **activemq::commands::Message** (p. 2064), **activemq::commands::MessageAck** (p. 2105), **activemq::commands::MessageDispatch** (p. 2133), **activemq::commands::MessageDispatchNotification** (p. 2147), **activemq::commands::MessagePull** (p. 2198), **activemq::commands::ProducerAck** (p. 2442), **activemq::commands::ProducerInfo** (p. 2462), **activemq::commands::RemoveInfo** (p. 2558), **activemq::commands::RemoveSubscriptionInfo** (p. 2566), **activemq::commands::ReplayCommand** (p. 2575), **activemq::commands::Response** (p. 2592), **activemq::commands::SessionInfo** (p. 2689), **activemq::commands::ShutdownInfo** (p. 2735), **activemq::commands::TransactionInfo** (p. 3091), and **activemq::commands::WireFormatInfo** (p. 3220).

References getCommandId(), and isResponseRequired().

6.80.2.2 virtual bool activemq::commands::BaseCommand::equals (const DataStructure * *value*) const [inline, virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 206), **activemq::commands::ActiveMQBytesMessage** (p. 216), **activemq::commands::ActiveMQMapMessage** (p. 345), **activemq::commands::ActiveMQMessage** (p. 360), **activemq::commands::ActiveMQMessageTemplate< T >** (p. 372), **activemq::commands::ActiveMQObjectMessage** (p. 380), **activemq::commands::ActiveMQStreamMessage** (p. 472), **activemq::commands::ActiveMQTextMessage** (p. 514), **activemq::commands::BrokerInfo** (p. 719), **activemq::commands::ConnectionControl** (p. 1092), **activemq::commands::ConnectionError** (p. 1101), **activemq::commands::ConnectionInfo** (p. 1125), **activemq::commands::ConsumerControl** (p. 1159), **activemq::commands::ConsumerInfo** (p. 1178), **activemq::commands::ControlCommand** (p. 1191), **activemq::commands::DataArrayResponse** (p. 1233), **activemq::commands::DataResponse** (p. 1275), **activemq::commands::DestinationInfo** (p. 1376), **activemq::commands::ExceptionResponse** (p. 1454), **activemq::commands::FlushCommand** (p. 1550), **activemq::commands::IntegerResponse** (p. 1741), **activemq::commands::KeepAliveInfo** (p. 1822), **activemq::commands::Message** (p. 2064), **activemq::commands::MessageAck** (p. 2105), **activemq::commands::MessageDispatch** (p. 2133), **activemq::commands::MessageDispatchNotification** (p. 2147), **activemq::commands::MessagePull** (p. 2198), **activemq::commands::ProducerAck** (p. 2442), **activemq::commands::ProducerInfo** (p. 2462), **activemq::commands::RemoveInfo** (p. 2558), **activemq::commands::RemoveSubscriptionInfo** (p. 2566), **activemq::commands::ReplayCommand** (p. 2575), **activemq::commands::Response** (p. 2592), **activemq::commands::SessionInfo** (p. 2689), **activemq::commands::ShutdownInfo** (p. 2735), **activemq::commands::TransactionInfo** (p. 3091), **activemq::commands::WireFormatInfo** (p. 3220), **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 372), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 372), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 372), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 372), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 372), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 372).

References activemq::commands::BaseDataStructure::equals().

6.80.2.3 virtual int activemq::commands::BaseCommand::getCommandId () const [inline, virtual]

Gets the **Command** (p. 1013) Id of this **Message** (p. 2059).

Returns:

Command (p. 1013) Id

Implements **activemq::commands::Command** (p. 1014).

Referenced by copyDataStructure().

6.80.2.4 virtual bool activemq::commands::BaseCommand::isBrokerInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1014).

Reimplemented in **activemq::commands::BrokerInfo** (p. 721).

6.80.2.5 virtual bool activemq::commands::BaseCommand::isConnectionControl () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1014).

Reimplemented in **activemq::commands::ConnectionControl** (p. 1093).

6.80.2.6 virtual bool activemq::commands::BaseCommand::isConnectionError () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1014).

Reimplemented in **activemq::commands::ConnectionError** (p. 1102).

6.80.2.7 virtual bool activemq::commands::BaseCommand::isConnectionInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1014).

Reimplemented in **activemq::commands::ConnectionInfo** (p. 1127).

6.80.2.8 virtual bool activemq::commands::BaseCommand::isConsumerControl () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1015).

Reimplemented in **activemq::commands::ConsumerControl** (p. 1160).

6.80.2.9 virtual bool activemq::commands::BaseCommand::isConsumerInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1015).

Reimplemented in **activemq::commands::ConsumerInfo** (p. 1180).

6.80.2.10 virtual bool activemq::commands::BaseCommand::isControlCommand () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1015).

Reimplemented in **activemq::commands::ControlCommand** (p. 1192).

6.80.2.11 virtual bool activemq::commands::BaseCommand::isDestinationInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1015).

6.80.2.12 virtual bool activemq::commands::BaseCommand::isFlushCommand () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1015).

Reimplemented in **activemq::commands::FlushCommand** (p. 1551).

6.80.2.13 virtual bool activemq::commands::BaseCommand::isKeepAliveInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1015).

Reimplemented in **activemq::commands::KeepAliveInfo** (p. 1822).

6.80.2.14 virtual bool activemq::commands::BaseCommand::isMessage () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1015).

Reimplemented in **activemq::commands::Message** (p. 2070).

6.80.2.15 virtual bool activemq::commands::BaseCommand::isMessageAck () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1015).

Reimplemented in **activemq::commands::MessageAck** (p. 2106).

6.80.2.16 virtual bool activemq::commands::BaseCommand::isMessageDispatch () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1016).

Reimplemented in **activemq::commands::MessageDispatch** (p. 2134).

6.80.2.17 virtual bool activemq::commands::BaseCommand::isMessageDispatchNotification () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1016).

Reimplemented in **activemq::commands::MessageDispatchNotification** (p. 2148).

6.80.2.18 virtual bool activemq::commands::BaseCommand::isMessagePull () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1016).

Reimplemented in **activemq::commands::MessagePull** (p. 2199).

6.80.2.19 virtual bool activemq::commands::BaseCommand::isProducerAck () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1016).

Reimplemented in **activemq::commands::ProducerAck** (p. 2443).

6.80.2.20 virtual bool activemq::commands::BaseCommand::isProducerInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1016).

Reimplemented in **activemq::commands::ProducerInfo** (p. 2463).

6.80.2.21 virtual bool activemq::commands::BaseCommand::isRemoveInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1016).

Reimplemented in **activemq::commands::RemoveInfo** (p. 2559).

6.80.2.22 virtual bool activemq::commands::BaseCommand::isRemoveSubscriptionInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1016).

Reimplemented in **activemq::commands::RemoveSubscriptionInfo** (p. 2567).

6.80.2.23 virtual bool activemq::commands::BaseCommand::isReplayCommand () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1016).

Reimplemented in **activemq::commands::ReplayCommand** (p. 2576).

6.80.2.24 virtual bool activemq::commands::BaseCommand::isResponse () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1017).

Reimplemented in **activemq::commands::Response** (p. 2593).

6.80.2.25 virtual bool activemq::commands::BaseCommand::isResponseRequired () const [inline, virtual]

Is a **Response** (p. 2591) required for this **Command** (p. 1013).

Returns:

true if a response is required.

Implements **activemq::commands::Command** (p. 1017).

Referenced by copyDataStructure().

6.80.2.26 virtual bool activemq::commands::BaseCommand::isSessionInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1017).

6.80.2.27 virtual bool activemq::commands::BaseCommand::isShutdownInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1017).

Reimplemented in **activemq::commands::ShutdownInfo** (p. 2735).

6.80.2.28 virtual bool activemq::commands::BaseCommand::isTransactionInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1017).

Reimplemented in **activemq::commands::TransactionInfo** (p. 3092).

6.80.2.29 virtual bool activemq::commands::BaseCommand::isWireFormatInfo () const [inline, virtual]

Implements **activemq::commands::Command** (p. 1017).

Reimplemented in **activemq::commands::WireFormatInfo** (p. 3223).

6.80.2.30 virtual void activemq::commands::BaseCommand::setCommandId (int *id*) [inline, virtual]

Sets the **Command** (p. 1013) Id of this **Message** (p. 2059).

Parameters:

id **Command** (p. 1013) Id

Implements **activemq::commands::Command** (p. 1017).

6.80.2.31 virtual void activemq::commands::BaseCommand::setResponseRequired (const bool *required*) [inline, virtual]

Set if this **Message** (p. 2059) requires a **Response** (p. 2591).

Parameters:

required true if response is required

Implements **activemq::commands::Command** (p. 1018).

6.80.2.32 virtual std::string activemq::commands::BaseCommand::toString () const [inline, virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Implements **activemq::commands::Command** (p. 1018).

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 207), **activemq::commands::ActiveMQBytesMessage** (p. 223), **activemq::commands::ActiveMQMapMessage** (p. 353), **activemq::commands::ActiveMQMessage** (p. 361), **activemq::commands::ActiveMQObjectMessage** (p. 382), **activemq::commands::ActiveMQStreamMessage** (p. 478), **activemq::commands::ActiveMQTextMessage** (p. 516), **activemq::commands::BrokerInfo** (p. 722), **activemq::commands::ConnectionControl** (p. 1094), **activemq::commands::ConnectionError** (p. 1102), **activemq::commands::ConnectionInfo** (p. 1128), **activemq::commands::ConsumerControl** (p. 1161), **activemq::commands::ConsumerInfo** (p. 1181), **activemq::commands::ControlCommand** (p. 1192), **activemq::commands::DataArrayResponse** (p. 1234), **activemq::commands::DataResponse** (p. 1276), **activemq::commands::DestinationInfo** (p. 1378), **activemq::commands::ExceptionResponse** (p. 1455), **activemq::commands::FlushCommand** (p. 1551), **activemq::commands::IntegerResponse** (p. 1742), **activemq::commands::KeepAliveInfo** (p. 1822), **activemq::commands::Message** (p. 2073), **activemq::commands::MessageAck** (p. 2107), **activemq::commands::MessageDispatch** (p. 2135), **activemq::commands::MessageDispatchNotification** (p. 2149), **activemq::commands::MessagePull** (p. 2200), **activemq::commands::ProducerAck** (p. 2443), **activemq::commands::ProducerInfo** (p. 2464), **activemq::commands::RemoveInfo** (p. 2559), **activemq::commands::RemoveSubscriptionInfo** (p. 2568), **activemq::commands::ReplayCommand** (p. 2576), **activemq::commands::Response** (p. 2593), **activemq::commands::SessionInfo** (p. 2690), **activemq::commands::ShutdownInfo** (p. 2735), **activemq::commands::TransactionInfo** (p. 3092), and **activemq::commands::WireFormatInfo** (p. 3225).

References activemq::commands::BaseDataStructure::toString().

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**BaseCommand.h**

6.81 activemq::wireformat::openwire::marshal::generated::BaseComman Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **BaseCommandMarshaller** (p. 636).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>`Inherit diagram for activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller:

Public Member Functions

- **BaseCommandMarshaller** ()
- virtual ~**BaseCommandMarshaller** ()
- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.81.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **BaseCommandMarshaller** (p. 636). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.81.2 Constructor & Destructor Documentation

6.81.2.1 activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller::BaseComm () [inline]

6.81.2.2 virtual activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller::~BaseCom () [inline, virtual]

6.81.3 Member Function Documentation

6.81.3.1 virtual void activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshall** (p. 210), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 229), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 356), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 367), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 384), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 484), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 518), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller** (p. 726), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller** (p. 1097), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller** (p. 1105), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller** (p. 1131), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller** (p. 1164), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller** (p. 1186), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller** (p. 1194), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1236), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1278), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller** (p. 1381), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1457), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller** (p. 1553), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1744), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller** (p. 1825), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller** (p. 2110), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller** (p. 2143), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller**

(p. 2152), activemq::wireformat::openwire::marshal::generated::MessageMarshaller
(p. 2172), activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller
(p. 2203), activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller
(p. 2446), activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller
(p. 2467), activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller
(p. 2562), activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller
(p. 2571), activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller
(p. 2579), activemq::wireformat::openwire::marshal::generated::ResponseMarshaller
(p. 2603), activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller
(p. 2693), activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller
(p. 2738), and activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller
(p. 3095).

6.81.3.2 virtual void activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller::looseUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshall**
(p. 211), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller**
(p. 230), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller**
(p. 357), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller**
(p. 368), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller**
(p. 385), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller**
(p. 485), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller**
(p. 519), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller**
(p. 727), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller**
(p. 1098), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller**
(p. 1106), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller**
(p. 1132), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller**
(p. 1165), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller**
(p. 1187), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller**
(p. 1195), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller**
(p. 1237), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller**
(p. 1279), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller**
(p. 1382), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller**
(p. 1458), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller**
(p. 1554), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller**
(p. 1745), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller**
(p. 1826), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller**

(p. 2111), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller** (p. 2144), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller** (p. 2153), **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller** (p. 2204), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller** (p. 2447), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller** (p. 2468), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller** (p. 2563), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller** (p. 2572), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller** (p. 2580), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller** (p. 2694), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller** (p. 2739), and **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller** (p. 3096).

6.81.3.3 virtual int activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller** (p. 211), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 230), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 357), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 368), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 385), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 485), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 519), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller** (p. 727), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller** (p. 1098), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller** (p. 1106), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller** (p. 1132), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller** (p. 1165), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller** (p. 1187), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller** (p. 1195), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1237), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1279), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller** (p. 1382), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1458), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller** (p. 1554), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller**

(p. 1745), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller**
(p. 1826), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller**
(p. 2111), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller**
(p. 2144), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller**
(p. 2153), **activemq::wireformat::openwire::marshal::generated::MessageMarshaller**
(p. 2173), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller**
(p. 2204), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller**
(p. 2447), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller**
(p. 2468), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller**
(p. 2563), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller**
(p. 2572), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller**
(p. 2580), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller**
(p. 2604), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller**
(p. 2694), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller**
(p. 2739), and **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller**
(p. 3096).

6.81.3.4 virtual void activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller::tightMarshal

(OpenWireFormat * ***format***, **commands::DataStructure** * ***command***, **decaf::io::DataOutputStream** * ***ds***, **utils::BooleanStream** * ***bs***) `[virtual]`

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshall**
(p. 211), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller**
(p. 230), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller**
(p. 357), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller**
(p. 368), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller**
(p. 385), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller**
(p. 485), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller**
(p. 519), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller**
(p. 727), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller**
(p. 1098), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller**
(p. 1106), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller**
(p. 1132), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller**
(p. 1165), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller**
(p. 1187), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller**
(p. 1195), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller**
(p. 1237), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller**

(p. 1279), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller** (p. 1382), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1458), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller** (p. 1554), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1745), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller** (p. 1826), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller** (p. 2111), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller** (p. 2144), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller** (p. 2153), **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller** (p. 2204), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller** (p. 2447), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller** (p. 2468), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller** (p. 2563), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller** (p. 2572), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller** (p. 2580), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2605), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller** (p. 2694), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller** (p. 2739), and **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller** (p. 3096).

6.81.3.5 virtual void activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller::tightUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshall** (p. 212), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 231), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 358), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 369), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 386), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 486), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 520), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller** (p. 728), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller** (p. 1099), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller** (p. 1107), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller** (p. 1133), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller** (p. 1166), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller**

(p. 1188), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller**
(p. 1196), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller**
(p. 1238), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller**
(p. 1280), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller**
(p. 1383), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller**
(p. 1459), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller**
(p. 1555), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller**
(p. 1746), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller**
(p. 1827), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller**
(p. 2112), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller**
(p. 2145), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller**
(p. 2154), **activemq::wireformat::openwire::marshal::generated::MessageMarshaller**
(p. 2174), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller**
(p. 2205), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller**
(p. 2448), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller**
(p. 2469), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller**
(p. 2564), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller**
(p. 2573), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller**
(p. 2581), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller**
(p. 2605), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller**
(p. 2695), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller**
(p. 2740), and **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller**
(p. 3097).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**BaseCommandMarshaller.h**

6.82 activemq::wireformat::openwire::marshal::BaseDataStreamMarshal Class Reference

Base class for all Marshallers that **marshal** (p. 83) DataStructures to and from the wire using the OpenWire protocol.

`#include <src/main/activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>`Inheritance diagram for activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller:

Public Member Functions

- virtual ~**BaseDataStreamMarshaller** ()
- virtual int **tightMarshal1** (**OpenWireFormat** *format AMQCPP_UNUSED, **commands::DataStructure** *command AMQCPP_UNUSED, **utils::BooleanStream** *bs AMQCPP_UNUSED)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *format AMQCPP_UNUSED, **commands::DataStructure** *command AMQCPP_UNUSED, **decaf::io::DataOutputStream** *ds AMQCPP_UNUSED, **utils::BooleanStream** *bs AMQCPP_UNUSED)

  Tight Marshal to the given stream.

- virtual void **tightUnmarshal** (**OpenWireFormat** *format AMQCPP_UNUSED, **commands::DataStructure** *command AMQCPP_UNUSED, **decaf::io::DataInputStream** *dis AMQCPP_UNUSED, **utils::BooleanStream** *bs AMQCPP_UNUSED)

  Tight Un-Marshal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *format AMQCPP_UNUSED, **commands::DataStructure** *command AMQCPP_UNUSED, **decaf::io::DataOutputStream** *ds AMQCPP_UNUSED)

  Tight Marshal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *format AMQCPP_UNUSED, **commands::DataStructure** *command AMQCPP_UNUSED, **decaf::io::DataInputStream** *dis AMQCPP_UNUSED)

  Loose Un-Marshal to the given stream.

Static Public Member Functions

- static std::string **toString** (const **commands::MessageId** *id)

  Converts the object to a String.

- static std::string **toString** (const **commands::ProducerId** *id)

  Converts the object to a String.

- static std::string **toString** (const **commands::TransactionId** *txnId)

Converts the given transaction ID into a String.

- static std::string **toHexFromBytes** (const std::vector< unsigned char > &data)

  given an array of bytes, convert that array to a Hexidecimal coded string that represents that data.

Protected Member Functions

- virtual **commands::DataStructure** * **tightUnmarshalCachedObject** (**OpenWireFormat** *wireFormat, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Unmarshal the cached object.

- virtual int **tightMarshalCachedObject1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *data, **utils::BooleanStream** *bs)

  Tightly marshals the passed DataStructure based object to the passed BooleanStream returning the size of the data marshaled.

- virtual void **tightMarshalCachedObject2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *data, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tightly marshals the passed DataStructure based object to the passed streams returning nothing.

- virtual void **looseMarshalCachedObject** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *data, **decaf::io::DataOutputStream** *dataOut)

  Loosely marshals the passed DataStructure based object to the passed stream returning nothing.

- virtual **commands::DataStructure** * **looseUnmarshalCachedObject** (**OpenWireFormat** *wireFormat, **decaf::io::DataInputStream** *dataIn)

  Loose Unmarshal the cached object.

- virtual int **tightMarshalNestedObject1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *object, **utils::BooleanStream** *bs)

  Tightly marshals the passed DataStructure based object to the passed BooleanStream returning the size of the data marshaled.

- virtual void **tightMarshalNestedObject2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *object, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tightly marshals the passed DataStructure based object to the passed streams returning nothing.

- virtual **commands::DataStructure** * **tightUnmarshalNestedObject** (**OpenWireFormat** *wireFormat, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Unmarshal the nested object.

- virtual **commands::DataStructure** * **looseUnmarshalNestedObject** (**OpenWireFormat** *wireFormat, **decaf::io::DataInputStream** *dataIn)

  Loose Unmarshal the nested object.

- virtual void **looseMarshalNestedObject** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *object, **decaf::io::DataOutputStream** *dataOut)

  Loose marshall the nested object.

- virtual std::string **tightUnmarshalString** (**decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Performs Tight Unmarshaling of String Objects.

- virtual int **tightMarshalString1** (const std::string &value, **utils::BooleanStream** *bs)

  Tight Marshals the String to a Booleans Stream Object, returns the marshaled size.

- virtual void **tightMarshalString2** (const std::string &value, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marshals the passed string to the streams passed.

- virtual void **looseMarshalString** (const std::string value, **decaf::io::DataOutputStream** *dataOut)

  Loose Marshal the String to the DataOuputStream passed.

- virtual std::string **looseUnmarshalString** (**decaf::io::DataInputStream** *dataIn)

  Loose Un-Marshal the String to the DataOuputStream passed.

- virtual int **tightMarshalLong1** (**OpenWireFormat** *wireFormat, long long value, **utils::BooleanStream** *bs)

  *Tightly **marshal** (p. 83) the long long to the BooleanStream passed.*

- virtual void **tightMarshalLong2** (**OpenWireFormat** *wireFormat, long long value, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  *Tightly **marshal** (p. 83) the long long to the Streams passed.*

- virtual long long **tightUnmarshalLong** (**OpenWireFormat** *wireFormat, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  *Tight **marshal** (p. 83) the long long type.*

- virtual void **looseMarshalLong** (**OpenWireFormat** *wireFormat, long long value, **decaf::io::DataOutputStream** *dataOut)

  *Tightly **marshal** (p. 83) the long long to the BooleanStream passed.*

- virtual long long **looseUnmarshalLong** (**OpenWireFormat** *wireFormat, **decaf::io::DataInputStream** *dataIn)

  *Loose **marshal** (p. 83) the long long type.*

- virtual std::vector< unsigned char > **tightUnmarshalByteArray** (**decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Unmarshal an array of char.

- virtual std::vector< unsigned char > **looseUnmarshalByteArray** (**decaf::io::DataInputStream** *dataIn)

  Loose Unmarshal an array of char.

- virtual std::vector< unsigned char > **tightUnmarshalConstByteArray** (**decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs, int size)

  Tight Unmarshal a fixed size array from that data input stream and return an stl vector of char as the resultant.

- virtual std::vector< unsigned char > **looseUnmarshalConstByteArray** (**decaf::io::DataInputStream** *dataIn, int size)

  Tight Unmarshal a fixed size array from that data input stream and return an stl vector of char as the resultant.

- virtual **commands::DataStructure** * **tightUnmarshalBrokerError** (**OpenWireFormat** *wireFormat, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Unarshall the Error object.

- virtual int **tightMarshalBrokerError1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *data, **utils::BooleanStream** *bs)

  Tight Marshal the Error object.

- virtual void **tightMarshalBrokerError2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *data, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marshal the Error object.

- virtual **commands::DataStructure** * **looseUnmarshalBrokerError** (**OpenWireFormat** *wireFormat, **decaf::io::DataInputStream** *dataIn)

  Loose Unarshal the Error object.

- virtual void **looseMarshalBrokerError** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *data, **decaf::io::DataOutputStream** *dataOut)

  Tight Marshal the Error object.

- template<typename T >
  int **tightMarshalObjectArray1** (**OpenWireFormat** *wireFormat, std::vector< T > objects, **utils::BooleanStream** *bs)

  Tightly Marshal an array of DataStructure objects to the provided boolean stream, and return the size that the tight marshalling is going to take.

- template<typename T >
  void **tightMarshalObjectArray2** (**OpenWireFormat** *wireFormat, std::vector< T > objects, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tightly Marshal an array of DataStructure objects to the provided boolean stream and data output stream.

- template<typename T >
  void **looseMarshalObjectArray** (**OpenWireFormat** *wireFormat, std::vector< T > objects, **decaf::io::DataOutputStream** *dataOut)

  Loosely Marshal an array of DataStructure objects to the provided boolean stream and data output stream.

- virtual std::string **readAsciiString** (**decaf::io::DataInputStream** *dataIn)

  Given an DataInputStream read a know ASCII formatted string from the input and return that string.

6.82.1 Detailed Description

Base class for all Marshallers that **marshal** (p. 83) DataStructures to and from the wire using the OpenWire protocol.

Since:

2.0

6.82.2 Constructor & Destructor Documentation

6.82.2.1 virtual activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::~BaseDataStreamM () [inline, virtual]

6.82.3 Member Function Documentation

6.82.3.1 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshal (OpenWireFormat *format *AMQCPP_UNUSED*, commands::DataStructure *command *AMQCPP_UNUSED*, decaf::io::DataOutputStream *ds *AMQCPP_UNUSED*) [inline, virtual]

Tight Marshal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

6.82.3.2 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalBrokerEr (OpenWireFormat * *wireFormat*, commands::DataStructure * *data*, decaf::io::DataOutputStream * *dataOut*) [protected, virtual]

Tight Marshal the Error object.

Parameters:

wireFormat - The OpenwireFormat properties

data - Error to Marshal

dataOut - stream to write marshalled data to

Exceptions:

IOException if an error occurs.

6.82.3.3 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalCachedO (OpenWireFormat * *wireFormat*, commands::DataStructure * *data*, decaf::io::DataOutputStream * *dataOut*) [protected, virtual]

Loosely marshals the passed DataStructure based object to the passed stream returning nothing.

Parameters:

wireFormat - The OpenwireFormat properties

data - DataStructure Object Pointer to **marshal** (p. 83)

dataOut - stream to write marshaled data to

Exceptions:

IOException if an error occurs.

6.82.3.4 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalLong (OpenWireFormat * *wireFormat*, long long *value*, decaf::io::DataOutputStream * *dataOut*) [protected, virtual]

Tightly **marshal** (p. 83) the long long to the BooleanStream passed.

Parameters:

wireFormat - The OpenwireFormat properties

value - long long to **marshal** (p. 83)

dataOut - DataOutputStream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

6.82.3.5 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalNestedOb (OpenWireFormat * *wireFormat*, commands::DataStructure * *object*, decaf::io::DataOutputStream * *dataOut*) [protected, virtual]

Loose marshall the nested object.

Parameters:

wireFormat - The OpenwireFormat properties

object - DataStructure Object Pointer to **marshal** (p. 83)

dataOut - stream to write marshaled data to

Exceptions:

IOException if an error occurs.

6.82.3.6 template<typename T > void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalObjectAr (OpenWireFormat * *wireFormat*, std::vector< T > *objects*, decaf::io::DataOutputStream * *dataOut*) [inline, protected]

Loosely Marshal an array of DataStructure objects to the provided boolean stream and data output stream.

Parameters:

wireFormat - The OpenwireFormat properties

objects - array of DataStructure object pointers.

dataOut - stream to write marshalled data to

Returns:

size of the marshalled data

Exceptions:

IOException if an error occurs.

References AMQ_CATCH_EXCEPTION_CONVERT, AMQ_CATCH_RETHROW, AMQ_CATCHALL_THROW, decaf::io::DataOutputStream::writeBoolean(), and decaf::io::DataOutputStream::writeShort().

6.82.3.7 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalString (const std::string *value*, decaf::io::DataOutputStream * *dataOut*) [protected, virtual]

Loose Marshal the String to the DataOuputStream passed.

Parameters:

value - string to **marshal** (p. 83)

dataOut - stream to write marshaled form to

Exceptions:

IOException if an error occurs.

6.82.3.8 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseUnmarshal (OpenWireFormat *format *AMQCPP_UNUSED*, commands::DataStructure *command *AMQCPP_UNUSED*, decaf::io::DataInputStream *dis *AMQCPP_UNUSED*) [inline, virtual]

Loose Un-Marshal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

6.82.3.9 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseUnmarshalBroker (OpenWireFormat * *wireFormat*, decaf::io::DataInputStream * *dataIn*) [protected, virtual]

Loose Unarshal the Error object.

Parameters:

wireFormat - The OpenwireFormat properties

dataIn - stream to read marshalled form from

Returns:

pointer to a new DataStructure Object

Exceptions:

IOException if an error occurs.

6.82.3.10 virtual std::vector<unsigned char> activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseUnmarshalByteA (decaf::io::DataInputStream * *dataIn*) [protected, virtual]

Loose Unmarshal an array of char.

Parameters:

dataIn - the DataInputStream to Un-Marshal from

Returns:

the unmarshalled vector of chars.

Exceptions:

IOException if an error occurs.

6.82.3.11 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseUnmarshalCache (OpenWireFormat * *wireFormat*, decaf::io::DataInputStream * *dataIn*) [protected, virtual]

Loose Unmarshal the cached object.

Parameters:

wireFormat - The OpenwireFormat properties

dataIn - stream to read marshaled form from

Returns:

pointer to a new DataStructure Object

Exceptions:

IOException if an error occurs.

6.82.3.12 virtual std::vector<unsigned char> activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseUnmarshalConst (decaf::io::DataInputStream * *dataIn*, int *size*) [protected, virtual]

Tight Unmarshal a fixed size array from that data input stream and return an stl vector of char as the resultant.

Parameters:

dataIn - the DataInputStream to Un-Marshal from

size - size of the const array to unmarshal

Returns:

the unmarshaled vector of chars.

Exceptions:

IOException if an error occurs.

6.82.3.13 virtual long long activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseUnmarshalLong (OpenWireFormat * *wireFormat*, decaf::io::DataInputStream * *dataIn*) [protected, virtual]

Loose **marshal** (p. 83) the long long type.

Parameters:

wireFormat - The OpenwireFormat properties

dataIn - stream to read marshaled form from

Returns:

the unmarshaled long long

Exceptions:

IOException if an error occurs.

6.82.3.14 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseUnmarshalNeste (OpenWireFormat * *wireFormat*, decaf::io::DataInputStream * *dataIn*) [protected, virtual]

Loose Unmarshal the nested object.

Parameters:

wireFormat - The OpenwireFormat properties

dataIn - stream to read marshaled form from

Returns:

pointer to a new DataStructure Object

Exceptions:

IOException if an error occurs.

6.82.3.15 virtual std::string activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseUnmarshalString (decaf::io::DataInputStream * *dataIn*) [protected, virtual]

Loose Un-Marshal the String to the DataOuputStream passed.

Parameters:

dataIn - stream to read marshaled form from

Returns:

the unmarshaled string

Exceptions:

IOException if an error occurs.

6.82.3.16 virtual std::string activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::readAsciiString (decaf::io::DataInputStream * *dataIn*) [protected, virtual]

Given an DataInputStream read a know ASCII formatted string from the input and return that string.

Parameters:

dataIn - DataInputStream to read from

Returns:

string value read from stream

6.82.3.17 virtual int activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshal1 (OpenWireFormat *format *AMQCPP_UNUSED*, commands::DataStructure *command *AMQCPP_UNUSED*, utils::BooleanStream *bs *AMQCPP_UNUSED*) [inline, virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

6.82.3.18 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshal2 (OpenWireFormat *format *AMQCPP_UNUSED*, commands::DataStructure *command *AMQCPP_UNUSED*, decaf::io::DataOutputStream *ds *AMQCPP_UNUSED*, utils::BooleanStream *bs *AMQCPP_UNUSED*) [inline, virtual]

Tight Marshal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

6.82.3.19 virtual int activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalBrokerE (OpenWireFormat * *wireFormat*, commands::DataStructure * *data*, utils::BooleanStream * *bs*) [protected, virtual]

Tight Marshal the Error object.

Parameters:

wireFormat - The OpenwireFormat properties

data - Error to Marshal

bs - boolean stream to **marshal** (p. 83) to.

Returns:

size of the marshalled data

Exceptions:

IOException if an error occurs.

6.82.3.20 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalBrokerE (OpenWireFormat * *wireFormat*, commands::DataStructure * *data*, decaf::io::DataOutputStream * *dataOut*, utils::BooleanStream * *bs*) [protected, virtual]

Tight Marshal the Error object.

Parameters:

wireFormat - The OpenwireFormat properties

data - Error to Marshal

dataOut - stream to write marshalled data to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

6.82.3.21 virtual int activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalCachedC (OpenWireFormat * *wireFormat*, commands::DataStructure * *data*, utils::BooleanStream * *bs*) [protected, virtual]

Tightly marshals the passed DataStructure based object to the passed BooleanStream returning the size of the data marshaled.

Parameters:

wireFormat - The OpenwireFormat properties

data - DataStructure Object Pointer to **marshal** (p. 83)

bs - boolean stream to **marshal** (p. 83) to.

Returns:

size of data written.

Exceptions:

IOException if an error occurs.

6.82.3.22 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalCachedC (OpenWireFormat * *wireFormat*, commands::DataStructure * *data*, decaf::io::DataOutputStream * *dataOut*, utils::BooleanStream * *bs*) [protected, virtual]

Tightly marshals the passed DataStructure based object to the passed streams returning nothing.

Parameters:

wireFormat - The OpenwireFormat properties

data - DataStructure Object Pointer to **marshal** (p. 83)

bs - boolean stream to **marshal** (p. 83) to.

dataOut - stream to write marshaled data to

Exceptions:

IOException if an error occurs.

6.82.3.23 virtual int activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalLong1 (OpenWireFormat * *wireFormat*, long long *value*, utils::BooleanStream * *bs*) [protected, virtual]

Tightly **marshal** (p. 83) the long long to the BooleanStream passed.

Parameters:

wireFormat - The OpenwireFormat properties

value - long long to **marshal** (p. 83)

bs - boolean stream to **marshal** (p. 83) to.

Returns:

size of data written.

Exceptions:

IOException if an error occurs.

6.82.3.24 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalLong2 (OpenWireFormat * *wireFormat*, long long *value*, decaf::io::DataOutputStream * *dataOut*, utils::BooleanStream * *bs*) [protected, virtual]

Tightly **marshal** (p. 83) the long long to the Streams passed.

Parameters:

wireFormat - The OpenwireFormat properties

value - long long to **marshal** (p. 83)

dataOut - stream to write marshaled form to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

6.82.3.25 virtual int activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalNestedO (OpenWireFormat * *wireFormat*, commands::DataStructure * *object*, utils::BooleanStream * *bs*) [protected, virtual]

Tightly marshals the passed DataStructure based object to the passed BooleanStream returning the size of the data marshaled.

Parameters:

wireFormat - The OpenwireFormat properties

object - DataStructure Object Pointer to **marshal** (p. 83)

bs - boolean stream to **marshal** (p. 83) to.

Returns:

size of data written.

Exceptions:

IOException if an error occurs.

6.82.3.26 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalNestedO (OpenWireFormat * *wireFormat*, commands::DataStructure * *object*, decaf::io::DataOutputStream * *dataOut*, utils::BooleanStream * *bs*) [protected, virtual]

Tightly marshals the passed DataStructure based object to the passed streams returning nothing.

Parameters:

wireFormat - The OpenwireFormat properties

object - DataStructure Object Pointer to **marshal** (p. 83)

bs - boolean stream to **marshal** (p. 83) to.

dataOut - stream to write marshaled data to

Exceptions:

IOException if an error occurs.

6.82.3.27 template<typename T > int activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectA (OpenWireFormat * *wireFormat*, std::vector< T > *objects*, utils::BooleanStream * *bs*) [inline, protected]

Tightly Marshal an array of DataStructure objects to the provided boolean stream, and return the size that the tight marshalling is going to take.

Parameters:

wireFormat - The OpenwireFormat properties

objects - array of DataStructure object pointers.

bs - boolean stream to **marshal** (p. 83) to.

Returns:

size of the marshalled data

Exceptions:

IOException if an error occurs.

References AMQ_CATCH_EXCEPTION_CONVERT, AMQ_CATCH_RETHROW, AMQ_CATCHALL_THROW, and activemq::wireformat::openwire::utils::BooleanStream::writeBoolean().

6.82.3.28 template<typename T > void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectA (OpenWireFormat * *wireFormat*, std::vector< T > *objects*, decaf::io::DataOutputStream * *dataOut*, utils::BooleanStream * *bs*) [inline, protected]

Tightly Marshal an array of DataStructure objects to the provided boolean stream and data output stream.

Parameters:

wireFormat - The OpenwireFormat properties

objects - array of DataStructure object pointers.

dataOut - stream to write marshalled data to

bs - boolean stream to **marshal** (p. 83) to.

Returns:

size of the marshalled data

Exceptions:

IOException if an error occurs.

References AMQ_CATCH_EXCEPTION_CONVERT, AMQ_CATCH_RETHROW, AMQ_CATCHALL_THROW, activemq::wireformat::openwire::utils::BooleanStream::readBoolean(), and decaf::io::DataOutputStream::writeShort().

6.82.3.29 virtual int activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalString1 (const std::string & *value*, utils::BooleanStream * *bs*) [protected, virtual]

Tight Marshals the String to a Booleans Stream Object, returns the marshaled size.

Parameters:

value - string to **marshal** (p. 83)

bs - BooleanStream to use.

Returns:

size of marshaled string.

Exceptions:

IOException if an error occurs.

6.82.3.30 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalString2 (const std::string & *value*, decaf::io::DataOutputStream * *dataOut*, utils::BooleanStream * *bs*) [protected, virtual]

Tight Marshals the passed string to the streams passed.

Parameters:

value - string to **marshal** (p. 83)

dataOut - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

6.82.3.31 virtual void activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightUnmarshal (OpenWireFormat *format *AMQCPP_UNUSED*, commands::DataStructure *command *AMQCPP_UNUSED*, decaf::io::DataInputStream *dis *AMQCPP_UNUSED*, utils::BooleanStream *bs *AMQCPP_UNUSED*) [inline, virtual]

Tight Un-Marshal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to Un-Marshal from.

Exceptions:

IOException if an error occurs.

6.82.3.32 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightUnmarshalBroke (OpenWireFormat * *wireFormat*, decaf::io::DataInputStream * *dataIn*, utils::BooleanStream * *bs*) [protected, virtual]

Tight Unarshall the Error object.

Parameters:

wireFormat - The OpenwireFormat properties

dataIn - stream to read marshalled form from

bs - boolean stream to **marshal** (p. 83) to.

Returns:

pointer to a new DataStructure Object

Exceptions:

IOException if an error occurs.

6.82.3.33 virtual std::vector<unsigned char> activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightUnmarshalByteA (decaf::io::DataInputStream * *dataIn*, utils::BooleanStream * *bs*) [protected, virtual]

Tight Unmarshal an array of char.

Parameters:

dataIn - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Returns:

the unmarshaled vector of chars.

Exceptions:

IOException if an error occurs.

6.82.3.34 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightUnmarshalCache (OpenWireFormat * *wireFormat*, decaf::io::DataInputStream * *dataIn*, utils::BooleanStream * *bs*) [protected, virtual]

Tight Unmarshal the cached object.

Parameters:

wireFormat - The OpenwireFormat properties

dataIn - stream to read marshaled form from

bs - boolean stream to **marshal** (p. 83) to.

Returns:

pointer to a new DataStructure Object

Exceptions:

IOException if an error occurs.

6.82.3.35 virtual std::vector<unsigned char> activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightUnmarshalConst (decaf::io::DataInputStream * *dataIn*, utils::BooleanStream * *bs*, int *size*) [protected, virtual]

Tight Unmarshal a fixed size array from that data input stream and return an stl vector of char as the resultant.

Parameters:

dataIn - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

size - size of the const array to unmarshal

Returns:

the unmarshaled vector of chars.

Exceptions:

IOException if an error occurs.

6.82.3.36 virtual long long activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightUnmarshalLong (OpenWireFormat * *wireFormat*, decaf::io::DataInputStream * *dataIn*, utils::BooleanStream * *bs*) [protected, virtual]

Tight **marshal** (p. 83) the long long type.

Parameters:

wireFormat - The OpenwireFormat properties

dataIn - stream to read marshaled form from

bs - boolean stream to **marshal** (p. 83) to.

Returns:

the unmarshaled long long

Exceptions:

IOException if an error occurs.

6.82.3.37 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightUnmarshalNeste (OpenWireFormat * *wireFormat*, decaf::io::DataInputStream * *dataIn*, utils::BooleanStream * *bs*) [protected, virtual]

Tight Unmarshal the nested object.

Parameters:

wireFormat - The OpenwireFormat properties

dataIn - stream to read marshaled form from

bs - boolean stream to **marshal** (p. 83) to.

Returns:

pointer to a new DataStructure Object

Exceptions:

IOException if an error occurs.

6.82.3.38 virtual std::string activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightUnmarshalString (decaf::io::DataInputStream * *dataIn*, utils::BooleanStream * *bs*) [protected, virtual]

Performs Tight Unmarshaling of String Objects.

Parameters:

dataIn - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Returns:

the unmarshaled string.

Exceptions:

IOException if an error occurs.

6.82.3.39 static std::string activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::toHexFromBytes (const std::vector< unsigned char > & *data*) [static]

given an array of bytes, convert that array to a Hexidecimal coded string that represents that data.

Parameters:

data - unsigned char data array pointer

Returns:

a string coded in hex that represents the data

6.82.3.40 static std::string activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::toString (const commands::TransactionId * *txnId*) [static]

Converts the given transaction ID into a String.

Parameters:

txnId - TransactionId poitner

Returns:

string representation of the id

6.82.3.41 static std::string activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::toString (const commands::ProducerId * *id*) [static]

Converts the object to a String.

Parameters:

id - ProducerId pointer

Returns:

string representing the id

6.82.3.42 static std::string activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::toString (const commands::MessageId * *id*) [static]

Converts the object to a String.

Parameters:

id - MessageId pointer

Returns:

string representing the id

Referenced by activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getCMSMessageID().

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/**BaseDataStreamMarshaller.h**

6.83 activemq::commands::BaseDataStructure Class Reference

`#include <src/main/activemq/commands/BaseDataStructure.h>`Inheritance diagram for activemq::commands::BaseDataStructure:

Public Member Functions

- virtual ~**BaseDataStructure** ()
- virtual bool **isMarshalAware** () const

  Determine if the class implementing this interface is really wanting to be told about marshaling.

- virtual void **beforeMarshal** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED)
- virtual void **afterMarshal** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED)
- virtual void **beforeUnmarshal** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED)
- virtual void **afterUnmarshal** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED)
- virtual void **setMarshaledForm** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED, const std::vector< char > &data AMQCPP_UNUSED)
- virtual std::vector< unsigned char > **getMarshaledForm** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED)
- virtual void **copyDataStructure** (const **DataStructure** *src AMQCPP_UNUSED)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value AMQCPP_UNUSED) const

6.83.1 Constructor & Destructor Documentation

6.83.1.1 virtual activemq::commands::BaseDataStructure::~BaseDataStructure () [inline, virtual]

6.83.2 Member Function Documentation

6.83.2.1 virtual void activemq::commands::BaseDataStructure::afterMarshal (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*) [inline, virtual]

6.83.2.2 virtual void activemq::commands::BaseDataStructure::afterUnmarshal (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*) [inline, virtual]

Reimplemented in **activemq::commands::Message** (p. 2063), and **activemq::commands::WireFormatInfo** (p. 3219).

6.83.2.3 virtual void activemq::commands::BaseDataStructure::beforeMarshal (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*) [inline, virtual]

Reimplemented in **activemq::commands::Message** (p. 2063), and **activemq::commands::WireFormatInfo** (p. 3219).

6.83.2.4 virtual void activemq::commands::BaseDataStructure::beforeUnmarshal (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*) [inline, virtual]

6.83.2.5 virtual void activemq::commands::BaseDataStructure::copyDataStructure (const DataStructure *src *AMQCPP_UNUSED*) [inline, virtual]

Reimplemented in **activemq::commands::BooleanExpression** (p. 695).

6.83.2.6 virtual bool activemq::commands::BaseDataStructure::equals (const DataStructure *value *AMQCPP_UNUSED*) const [inline, virtual]

Referenced by activemq::commands::BooleanExpression::equals(), and activemq::commands::BaseCommand::equals().

6.83.2.7 virtual std::vector<unsigned char> activemq::commands::BaseDataStructure::getMarshaledForm (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*) [inline, virtual]

6.83.2.8 virtual bool activemq::commands::BaseDataStructure::isMarshalAware () const [inline, virtual]

Determine if the class implementing this interface is really wanting to be told about marshaling. Normally if you didn't want to be marshal aware you just wouldn't implement this interface but since this is C++ and we don't have true interfaces we need a flat inheritance hierarchy, so we always implement this.

Returns:

true if this class cares about marshaling.

Implements **activemq::wireformat::MarshalAware** (p. 2024).

Reimplemented in **activemq::commands::ActiveMQMapMessage** (p. 350), **activemq::commands::Message** (p. 2069), and **activemq::commands::WireFormatInfo** (p. 3222).

6.83.2.9 virtual void activemq::commands::BaseDataStructure::setMarshaledForm (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*, const std::vector< char > &data *AMQCPP_UNUSED*) [inline, virtual]

6.83.2.10 virtual std::string activemq::commands::BaseDataStructure::toString () const [inline, virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Implements **activemq::commands::DataStructure** (p. 1296).

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 207), **activemq::commands::ActiveMQBytesMessage** (p. 223), **activemq::commands::ActiveMQDestination** (p. 329), **activemq::commands::ActiveMQMapMessage** (p. 353), **activemq::commands::ActiveMQMessage** (p. 361), **activemq::commands::ActiveMQObjectMessage** (p. 382), **activemq::commands::ActiveMQQueue** (p. 418), **activemq::commands::ActiveMQStreamMessage** (p. 478), **activemq::commands::ActiveMQTempDestination** (p. 490), **activemq::commands::ActiveMQTempQueue** (p. 499), **activemq::commands::ActiveMQTempTopic** (p. 507), **activemq::commands::ActiveMQTextMessage** (p. 516), **activemq::commands::ActiveMQTopic** (p. 524), **activemq::commands::BaseCommand** (p. 635), **activemq::commands::BooleanExpression** (p. 696), **activemq::commands::BrokerId** (p. 712), **activemq::commands::BrokerInfo** (p. 722), **activemq::commands::Command** (p. 1018), **activemq::commands::ConnectionControl** (p. 1094), **activemq::commands::ConnectionError** (p. 1102), **activemq::commands::ConnectionId** (p. 1117), **activemq::commands::ConnectionInfo** (p. 1128), **activemq::commands::ConsumerControl** (p. 1161), **activemq::commands::ConsumerId** (p. 1170), **activemq::commands::ConsumerInfo** (p. 1181), **activemq::commands::ControlCommand** (p. 1192), **activemq::commands::DataArrayResponse** (p. 1234), **activemq::commands::DataResponse** (p. 1276), **activemq::commands::DestinationInfo** (p. 1378), **activemq::commands::DiscoveryEvent** (p. 1394), **activemq::commands::ExceptionResponse** (p. 1455), **activemq::commands::FlushCommand** (p. 1551), **activemq::commands::IntegerResponse** (p. 1742), **activemq::commands::JournalQueueAck** (p. 1793), **activemq::commands::JournalTopicAck** (p. 1801), **activemq::commands::JournalTrace** (p. 1808), **activemq::commands::JournalTransaction** (p. 1816), **activemq::commands::KeepAliveInfo** (p. 1822), **activemq::commands::LastPartialCommand** (p. 1837), **activemq::commands::LocalTransactionId** (p. 1906), **activemq::commands::Message** (p. 2073), **activemq::commands::MessageAck** (p. 2107), **activemq::commands::MessageDispatch** (p. 2135), **activemq::commands::MessageDispatchNotification** (p. 2149), **activemq::commands::MessageId** (p. 2164), **activemq::commands::MessagePull** (p. 2200), **activemq::commands::NetworkBridgeFilter** (p. 2236), **activemq::commands::PartialCommand** (p. 2344), **activemq::commands::ProducerAck** (p. 2443), **activemq::commands::ProducerId** (p. 2455), **activemq::commands::ProducerInfo** (p. 2464), **activemq::commands::RemoveInfo** (p. 2559), **activemq::commands::RemoveSubscriptionInfo** (p. 2568), **activemq::commands::ReplayCommand** (p. 2576), **activemq::commands::Response**

(p. 2593), **activemq::commands::SessionId** (p. 2683), **activemq::commands::SessionInfo** (p. 2690), **activemq::commands::ShutdownInfo** (p. 2735), **activemq::commands::SubscriptionInfo** (p. 2932), **activemq::commands::TransactionId** (p. 3085), **activemq::commands::TransactionInfo** (p. 3092), **activemq::commands::WireFormatInfo** (p. 3225), and **activemq::commands::XATransactionId** (p. 3269).

Referenced by activemq::commands::BooleanExpression::toString(), and activemq::commands::BaseCommand::toString().

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**BaseDataStructure.h**

6.84 decaf::net::BindException Class Reference

`#include <src/main/decaf/net/BindException.h>`Inheritance diagram for decaf::net::BindException:

Public Member Functions

- **BindException** ()

  Default Constructor.

- **BindException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **BindException** (const **BindException** &ex)

  Copy Constructor.

- **BindException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **BindException** (const std::exception *cause)

  Constructor.

- **BindException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **BindException** * **clone** () const

  Clones this exception.

- virtual ~**BindException** () throw ()

6.84.1 Constructor & Destructor Documentation

6.84.1.1 decaf::net::BindException::BindException ()

Default Constructor.

6.84.1.2 decaf::net::BindException::BindException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.84.1.3 decaf::net::BindException::BindException (const BindException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.84.1.4 decaf::net::BindException::BindException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.84.1.5 decaf::net::BindException::BindException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.84.1.6 decaf::net::BindException::BindException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.84.1.7 virtual decaf::net::BindException::~BindException () throw () [virtual]

6.84.2 Member Function Documentation

6.84.2.1 virtual BindException* decaf::net::BindException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::net::SocketException** (p. 2773).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**BindException.h**

6.85 decaf::util::BitSet Class Reference

This class implements a vector of bits that grows as needed.

`#include <src/main/decaf/util/BitSet.h>`

Public Member Functions

- **BitSet** ()

  *Creates a new **BitSet** (p. 670) whose bits are all false.*

- **BitSet** (int bitCount)

  Creates a bit set whose initial size is large enough to explicitly represent bits with indices in the range 0 through bitCount-1.

- **BitSet** (const **BitSet** &set)

  Copy Constructor.

- **BitSet** & **operator**= (const **BitSet** &set)

  Assignment.

- virtual ~**BitSet** ()
- bool **operator**== (const **BitSet** &other) const

  Boolean comparison operator ==.

- bool **operator!**= (const **BitSet** &other) const

  Boolean comparison operator !=.

- void **AND** (const **BitSet** &set)

  Performs a logical AND of this target bit set with the argument bit set.

- void **OR** (const **BitSet** &set)

  Performs a logical OR of this bit set with the bit set argument.

- void **andNot** (const **BitSet** &set)

  *Clears all of the bits in this **BitSet** (p. 670) whose corresponding bit is set in the specified **BitSet** (p. 670).*

- int **cardinality** ()

  *Returns the number of bits set to true in this **BitSet** (p. 670).*

- void **clear** ()

  *Sets all of the bits in this **BitSet** (p. 670) to false.*

- void **clear** (int index)

  Sets the bit specified by the index to false.

- void **clear** (int fromIndex, int toIndex)

  Sets the bits from the specified fromIndex (inclusive) to the specified toIndex (exclusive) to false.

- bool **equals** (const **BitSet** &set) const

  Compares this object against the specified object.

- void **flip** (int index)

  Sets the bit at the specified index to the complement of its current value.

- void **flip** (int fromIndex, int toIndex)

  Sets each bit from the specified fromIndex (inclusive) to the specified toIndex (exclusive) to the complement of its current value.

- bool **get** (int index) const

  Returns the value of the bit with the specified index.

- **BitSet get** (int fromIndex, int toIndex) const

  *Returns a new **BitSet** (p. 670) composed of bits from this **BitSet** (p. 670) from fromIndex (inclusive) to toIndex (exclusive).*

- bool **intersects** (const **BitSet** &set) const

  *Returns true if the specified **BitSet** (p. 670) has any bits set to true that are also set to true in this **BitSet** (p. 670).*

- bool **isEmpty** () const

  *Returns true if this **BitSet** (p. 670) contains no bits that are set to true.*

- int **length** () const

  *Returns the "logical size" of this **BitSet** (p. 670): the index of the highest set bit in the **BitSet** (p. 670) plus one.*

- int **nextClearBit** (int index) const

  Returns the index of the first bit that is set to false that occurs on or after the specified starting index.

- int **nextSetBit** (int index) const

  Returns the index of the first bit that is set to true that occurs on or after the specified starting index.

- void **set** (int index)

  Sets the bit at the specified index to true.

- void **set** (int index, bool value)

  Sets the bit at the specified index to the specified value.

- void **set** (int fromIndex, int toIndex)

  Sets the bits from the specified fromIndex (inclusive) to the specified toIndex (exclusive) to true.

- void **set** (int fromIndex, int toIndex, bool value)

  Sets the bits from the specified fromIndex (inclusive) to the specified toIndex (exclusive) to the value given.

- int **size** () const

  *Returns the number of bits of space actually in use by this **BitSet** (p. 670) to represent bit values.*

- std::string **toString** () const

  Returns a string representation of this bit set.

- void **XOR** (const **BitSet** &set)

  Performs a logical XOR of this bit set with the bit set argument.

6.85.1 Detailed Description

This class implements a vector of bits that grows as needed. Each component of the bit set has a boolean value. The bits of a **BitSet** (p. 670) are indexed by nonnegative integers. Individual indexed bits can be examined, set, or cleared. One **BitSet** (p. 670) may be used to modify the contents of another **BitSet** (p. 670) through logical AND, logical inclusive OR, and logical exclusive OR operations.

By default, all bits in the set initially have the value false.

Every bit set has a current size, which is the number of bits of space currently in use by the bit set. Note that the size is related to the implementation of a bit set, so it may change with implementation. The length of a bit set relates to logical length of a bit set and is defined independently of implementation.

A **BitSet** (p. 670) is not safe for multi-threaded use without external synchronization.

Since:

1.0

6.85.2 Constructor & Destructor Documentation

6.85.2.1 decaf::util::BitSet::BitSet ()

Creates a new **BitSet** (p. 670) whose bits are all false.

6.85.2.2 decaf::util::BitSet::BitSet (int *bitCount*)

Creates a bit set whose initial size is large enough to explicitly represent bits with indices in the range 0 through bitCount-1. All bits are initially false. If the bitCount is not a multiple of 64 then the count is rounded to the next closest multiple of 64.

Parameters:

bitCount The number of bits this **BitSet** (p. 670) should hold.

Exceptions:

NegativeArraySizeException if bitCount is negative.

6.85.2.3 decaf::util::BitSet::BitSet (const BitSet & *set*)

Copy Constructor.

6.85.2.4 virtual decaf::util::BitSet::~BitSet () [virtual]

6.85.3 Member Function Documentation

6.85.3.1 void decaf::util::BitSet::AND (const BitSet & *set*)

Performs a logical AND of this target bit set with the argument bit set. This bit set is modified so that each bit in it has the value true if and only if it both initially had the value true and the corresponding bit in the bit set argument also had the value true.

Parameters:

set The **BitSet** (p. 670) to perform this action against.

6.85.3.2 void decaf::util::BitSet::andNot (const BitSet & *set*)

Clears all of the bits in this **BitSet** (p. 670) whose corresponding bit is set in the specified **BitSet** (p. 670).

Parameters:

set The **BitSet** (p. 670) to perform this action against.

6.85.3.3 int decaf::util::BitSet::cardinality ()

Returns the number of bits set to true in this **BitSet** (p. 670).

Returns:

the number of bits set to true in this **BitSet** (p. 670).

6.85.3.4 void decaf::util::BitSet::clear (int *fromIndex*, int *toIndex*)

Sets the bits from the specified fromIndex (inclusive) to the specified toIndex (exclusive) to false.

Parameters:

fromIndex The index (inclusive) to start setting bits to false.

toIndex The index (exclusive) to stop setting bits to false.

Exceptions:

IndexOutOfBoundsException if fromIndex is negative, or toIndex is negative, or fromIndex is larger than toIndex.

6.85.3.5 void decaf::util::BitSet::clear (int *index*)

Sets the bit specified by the index to false.

Parameters:

index The index of the bit whose value is to be set to false

Exceptions:

IndexOutOfBoundsException if the index value is negative.

6.85.3.6 void decaf::util::BitSet::clear ()

Sets all of the bits in this **BitSet** (p. 670) to false.

6.85.3.7 bool decaf::util::BitSet::equals (const BitSet & *set*) const

Compares this object against the specified object. The result is true if and only if is a Bitset object that has exactly the same set of bits set to true as this bit set. That is, for every nonnegative int index k,

set.get(k) == this->get(k)

must be true. The current sizes of the two bit sets are not compared.

Returns:

true if the sets are the same, false otherwise.

6.85.3.8 void decaf::util::BitSet::flip (int *fromIndex*, int *toIndex*)

Sets each bit from the specified fromIndex (inclusive) to the specified toIndex (exclusive) to the complement of its current value.

Parameters:

fromIndex The index (inclusive) to start setting bits to its compliment.

toIndex The index (exclusive) to stop setting bits to its compliment.

Exceptions:

IndexOutOfBoundsException if fromIndex is negative, or toIndex is negative, or fromIndex is larger than toIndex.

6.85.3.9 void decaf::util::BitSet::flip (int *index*)

Sets the bit at the specified index to the complement of its current value.

Parameters:

index The index of the bit whose value is to be set to its compliment.

Exceptions:

IndexOutOfBoundsException if the index value is negative.

6.85.3.10 BitSet decaf::util::BitSet::get (int *fromIndex*, int *toIndex*) const

Returns a new **BitSet** (p. 670) composed of bits from this **BitSet** (p. 670) from fromIndex (inclusive) to toIndex (exclusive).

Parameters:

fromIndex The index (inclusive) to start at.

toIndex The index (exclusive) to stop at.

Returns:

a new **BitSet** (p. 670) containing the specified values.

Exceptions:

IndexOutOfBoundsException if fromIndex is negative, or toIndex is negative, or fromIndex is larger than toIndex.

6.85.3.11 bool decaf::util::BitSet::get (int *index*) const

Returns the value of the bit with the specified index. The value is true if the bit with the given index is currently set in this **BitSet** (p. 670); otherwise, the result is false.

Parameters:

index The index of the bit in question.

Returns:

the value of the bit with the specified index.

Exceptions:

IndexOutOfBoundsException if the index value is negative.

6.85.3.12 bool decaf::util::BitSet::intersects (const BitSet & *set*) const

Returns true if the specified **BitSet** (p. 670) has any bits set to true that are also set to true in this **BitSet** (p. 670).

Parameters:

set **BitSet** (p. 670) to intersect with.

Returns:

boolean indicating whether this **BitSet** (p. 670) intersects the specified **BitSet** (p. 670).

6.85.3.13 bool decaf::util::BitSet::isEmpty () const

Returns true if this **BitSet** (p. 670) contains no bits that are set to true.

Returns:

true if the set is empty, false otherwise.

6.85.3.14 int decaf::util::BitSet::length () const

Returns the "logical size" of this **BitSet** (p. 670): the index of the highest set bit in the **BitSet** (p. 670) plus one. Returns zero if the **BitSet** (p. 670) contains no set bits.

Returns:

the logical size of the **BitSet** (p. 670).

6.85.3.15 int decaf::util::BitSet::nextClearBit (int *index*) const

Returns the index of the first bit that is set to false that occurs on or after the specified starting index.

Parameters:

index The index to start the search from (inclusive).

Returns:

the index of the next clear bit.

Exceptions:

IndexOutOfBoundsException if the index value is negative.

6.85.3.16 int decaf::util::BitSet::nextSetBit (int *index*) const

Returns the index of the first bit that is set to true that occurs on or after the specified starting index.

Parameters:

index The index to start the search from (inclusive).

Returns:

the index of the next set bit.

Exceptions:

IndexOutOfBoundsException if the index value is negative.

6.85.3.17 bool decaf::util::BitSet::operator!= (const BitSet & *other*) const [inline]

Boolean comparison operator !=.

Parameters:

other The other **BitSet** (p. 670) to compare to this one.

6.85.3.18 BitSet& decaf::util::BitSet::operator= (const BitSet & *set*)

Assignment.

6.85.3.19 bool decaf::util::BitSet::operator== (const BitSet & *other*) const [inline]

Boolean comparison operator ==.

Parameters:

other The other **BitSet** (p. 670) to compare to this one.

6.85.3.20 void decaf::util::BitSet::OR (const BitSet & *set*)

Performs a logical OR of this bit set with the bit set argument. This bit set is modified so that a bit in it has the value true if and only if it either already had the value true or the corresponding bit in the bit set argument has the value true.

Parameters:

set The **BitSet** (p. 670) to perform this action against.

6.85.3.21 void decaf::util::BitSet::set (int *fromIndex*, int *toIndex*, bool *value*)

Sets the bits from the specified fromIndex (inclusive) to the specified toIndex (exclusive) to the value given.

Parameters:

fromIndex The index (inclusive) to start at.

toIndex The index (exclusive) to stop at.

value The boolean value to assign to the target bits.

Exceptions:

IndexOutOfBoundsException if fromIndex is negative, or toIndex is negative, or fromIndex is larger than toIndex.

6.85.3.22 void decaf::util::BitSet::set (int *fromIndex*, int *toIndex*)

Sets the bits from the specified fromIndex (inclusive) to the specified toIndex (exclusive) to true.

Parameters:

fromIndex The index (inclusive) to start at.

toIndex The index (exclusive) to stop at.

Exceptions:

IndexOutOfBoundsException if fromIndex is negative, or toIndex is negative, or fromIndex is larger than toIndex.

6.85.3.23 void decaf::util::BitSet::set (int *index*, bool *value*)

Sets the bit at the specified index to the specified value.

Parameters:

index The index to set.

value The value to assign to the given bit.

Exceptions:

IndexOutOfBoundsException if the index value is negative.

6.85.3.24 void decaf::util::BitSet::set (int *index*)

Sets the bit at the specified index to true.

Parameters:

index The index to set to true.

Exceptions:

IndexOutOfBoundsException if the index value is negative.

6.85.3.25 int decaf::util::BitSet::size () const

Returns the number of bits of space actually in use by this **BitSet** (p. 670) to represent bit values. The maximum element in the set is the size - 1st element.

Returns:

the number of bits currently in this bit set.

6.85.3.26 std::string decaf::util::BitSet::toString () const

Returns a string representation of this bit set. For every index for which this **BitSet** (p. 670) contains a bit in the set state, the decimal representation of that index is included in the result. Such indices are listed in order from lowest to highest, separated by ", " (a comma and a space) and surrounded by braces, resulting in the usual mathematical notation for a set of integers.

Returns:

string representation of the **BitSet** (p. 670).

6.85.3.27 void decaf::util::BitSet::XOR (const BitSet & *set*)

Performs a logical XOR of this bit set with the bit set argument. This bit set is modified so that a bit in it has the value true if and only if one of the following statements holds:

∗ The bit initially has the value true, and the corresponding bit in the argument has the value false. ∗ The bit initially has the value false, and the corresponding bit in the argument has the value true.

Parameters:

set The **BitSet** (p. 670) to use.

The documentation for this class was generated from the following file:

- src/main/decaf/util/**BitSet.h**

6.86 decaf::io::BlockingByteArrayInputStream Class Reference

This is a blocking version of a byte buffer stream.

`#include <src/main/decaf/io/BlockingByteArrayInputStream.h>`Inheritance diagram for decaf::io::BlockingByteArrayInputStream:

Public Member Functions

- **BlockingByteArrayInputStream** ()

  Default Constructor - uses a default ***internal*** *(p. 96) buffer.*

- **BlockingByteArrayInputStream** (const unsigned char *buffer, int bufferSize)

  Constructor that initializes the ***internal*** *(p. 96) buffer.*

- virtual ~**BlockingByteArrayInputStream** ()
- virtual void **setByteArray** (const unsigned char *buffer, int bufferSize)

- virtual int **available** () const

  Indicates the number of bytes available.
  The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.
  The default implementation of this method returns zero.
  Returns:

  the number of bytes available on this input stream.
  Exceptions:

  IOException *(p. 1774) if an I/O error occurs.*

- virtual void **close** ()

  Closes the ***InputStream*** *(p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.*
  The default implementation of this method does nothing.
  Exceptions:

  IOException *(p. 1774) if an I/O error occurs while closing the* ***InputStream*** *(p. 1694).*

- virtual long long **skip** (long long num)

  Skips over and discards n bytes of data from this input stream.
  The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.
  The skip method of ***InputStream*** *(p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.*
  Parameters:

  num *The number of bytes to skip.*

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774) if an I/O error occurs.*
UnsupportedOperationException *if the concrete stream class does not support skipping bytes.*

Protected Member Functions

- virtual int **doReadByte** ()
- virtual int **doReadArrayBounded** (unsigned char *buffer, int size, int offset, int length)

6.86.1 Detailed Description

This is a blocking version of a byte buffer stream. Read operations block until the requested data becomes available in the **internal** (p. 96) buffer via a call to setByteArray.

6.86.2 Constructor & Destructor Documentation

6.86.2.1 decaf::io::BlockingByteArrayInputStream::BlockingByteArrayInputStream ()

Default Constructor - uses a default **internal** (p. 96) buffer.

6.86.2.2 decaf::io::BlockingByteArrayInputStream::BlockingByteArrayInputStream (const unsigned char * *buffer*, int *bufferSize*)

Constructor that initializes the **internal** (p. 96) buffer.

See also:

setByteArray (p. 682).

6.86.2.3 virtual decaf::io::BlockingByteArrayInputStream::~BlockingByteArrayInputStream () [virtual]

6.86.3 Member Function Documentation

6.86.3.1 virtual int decaf::io::BlockingByteArrayInputStream::available () const [virtual]

Indicates the number of bytes available.

The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented from **decaf::io::InputStream** (p. 1695).

6.86.3.2 virtual void decaf::io::BlockingByteArrayInputStream::close () [virtual]

Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.

The default implementation of this method does nothing.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs while closing the **InputStream** (p. 1694).

Reimplemented from **decaf::io::InputStream** (p. 1696).

6.86.3.3 virtual int decaf::io::BlockingByteArrayInputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::InputStream** (p. 1696).

6.86.3.4 virtual int decaf::io::BlockingByteArrayInputStream::doReadByte () [protected, virtual]

Implements **decaf::io::InputStream** (p. 1697).

6.86.3.5 virtual void decaf::io::BlockingByteArrayInputStream::setByteArray (const unsigned char * *buffer*, int *bufferSize*) [virtual]

6.86.3.6 virtual long long decaf::io::BlockingByteArrayInputStream::skip (long long *num*) [virtual]

Skips over and discards n bytes of data from this input stream.

The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

Reimplemented from **decaf::io::InputStream** (p. 1700).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**BlockingByteArrayInputStream.h**

6.87 decaf::util::concurrent::BlockingQueue< E > Class Template Reference

A **decaf::util::Queue** (p. 2500) that additionally supports operations that wait for the queue to become non-empty when retrieving an element, and wait for space to become available in the queue when storing an element.

`#include <src/main/decaf/util/concurrent/BlockingQueue.h>`Inheritance diagram for decaf::util::concurrent::BlockingQueue< E >:

Public Member Functions

- virtual ~**BlockingQueue** ()
- virtual void **put** (const E &value)=0

  Inserts the specified element into this queue, waiting if necessary for space to become available.

- virtual bool **offer** (const E &e, long long timeout, const **TimeUnit** &unit)=0

  Inserts the specified element into this queue, waiting up to the specified wait time if necessary for space to become available.

- virtual E **take** ()=0

  Retrieves and removes the head of this queue, waiting if necessary until an element becomes available.

- virtual bool **poll** (E &result, long long timeout, const **TimeUnit** &unit)=0

  Retrieves and removes the head of this queue, waiting up to the specified wait time if necessary for an element to become available.

- virtual int **remainingCapacity** () const =0

  Returns the number of additional elements that this queue can ideally (in the absence of memory or resource constraints) accept without blocking, or `Integer::MAX_VALUE` if there is no intrinsic limit.

- virtual int **drainTo** (**Collection**< E > &c)=0

  Removes all available elements from this queue and adds them to the given collection.

- virtual int **drainTo** (**Collection**< E > &c, int maxElements)=0

  Removes at most the given number of available elements from this queue and adds them to the given collection.

6.87.1 Detailed Description

template<typename E> class decaf::util::concurrent::BlockingQueue< E >

A **decaf::util::Queue** (p. 2500) that additionally supports operations that wait for the queue to become non-empty when retrieving an element, and wait for space to become available in the queue when storing an element. `BlockingQueue` (p. 684) methods come in four forms, with different ways of handling operations that cannot be satisfied immediately, but may be satisfied at some

point in the future: one throws an exception, the second returns a special value (either `true` or `false`, depending on the operation), the third blocks the current thread indefinitely until the operation can succeed, and the fourth blocks for only a given maximum time limit before giving up. These methods are summarized in the following table:

	Throws exception	*Boolean Flag*	*Blocks*	*Times out*
Insert	**add(e)** (p. 176)	**offer(e)** (p. 687)	**put(e)** (p. 688)	**offer(e, time, unit)** (p. ??)
Remove	**remove()** (p. 178)	**poll()** (p. 688)	**take()** (p. 689)	**poll(time, unit)** (p. ??)
Examine	**element()** (p. 177)	**peek()** (p. 2502)	*not applicable*	*not applicable*

A `BlockingQueue` (p. 684) may be capacity bounded. At any given time it may have a `remainingCapacity` beyond which no additional elements can be `put` without blocking. A `BlockingQueue` (p. 684) without any intrinsic capacity constraints always reports a remaining capacity of `Integer::MAX_VALUE`.

`BlockingQueue` (p. 684) implementations are designed to be used primarily for producer-consumer queues, but additionally support **decaf::util::Collection** (p. 1000) interface. So, for example, it is possible to remove an arbitrary element from a queue using `remove(x)`. However, such operations are in general *not* performed very efficiently, and are intended for only occasional use, such as when a queued message is cancelled.

`BlockingQueue` (p. 684) implementations are thread-safe. All queuing methods achieve their effects atomically using **internal** (p. 96) **locks** (p. 133) or other forms of concurrency control. However, the *bulk* **Collection** (p. 1000) operations `addAll`, `containsAll`, `retainAll` and `removeAll` are *not* necessarily performed atomically unless specified otherwise in an implementation. So it is possible, for example, for `addAll(c)` to fail (throwing an exception) after adding only some of the elements in `c`.

A `BlockingQueue` (p. 684) does *not* intrinsically support any kind of "close" or "shutdown" operation to indicate that no more items will be added. The needs and usage of such features tend to be implementation-dependent. For example, a common tactic is for producers to insert special *end-of-stream* or *poison* objects, that are interpreted accordingly when taken by consumers.

Usage example, based on a typical producer-consumer scenario. Note that a `BlockingQueue` (p. 684) can safely be used with multiple producers and multiple consumers.

```
class Producer : public Runnable {
private:

    BlockingQueue* queue;

public:

    Producer( BlockingQueue* q ) : queue( q ) {}

    virtual void run() {
        try {
            while( true ) { queue->put( produce() ); }
        } catch( InterruptedException& ex ) { ... handle ...}
    }

    Object produce() { ... }
}
```

```
class Consumer : public Runnable {
private:

    BlockingQueue* queue;

public:

    Consumer( BlockingQueue* q ) : queue( q ) {}

    virtual void run() {
        try {
            while( true ) { consume( queue->take() (p. 689) ); }
        } catch( InterruptedException& ex ) { ... handle ...}
    }

    void consume( Object& x ) { ... }
}

int main( int argc, char** argv ) {

    BlockingQueue (p. 684) q = new SomeQueueImplementation();
    Producer p( &q );
    Consumer c1( &q );
    Consumer c2( &q );
    Thread t1( &p ).start();
    Thread t2( &c1 ).start();
    Thread t3( &c2 ).start();
}
```

Memory consistency effects: As with other **concurrent** (p. 129) collections, actions in a thread prior to placing an object into a **BlockingQueue** (p. 684) *happen-before* actions subsequent to the access or removal of that element from the **BlockingQueue** (p. 684) in another thread.

Since:

1.0

6.87.2 Constructor & Destructor Documentation

6.87.2.1 template<typename E> virtual decaf::util::concurrent::BlockingQueue< E >::~BlockingQueue () [inline, virtual]

6.87.3 Member Function Documentation

6.87.3.1 template<typename E> virtual int decaf::util::concurrent::BlockingQueue< E >::drainTo (Collection< E > & *c*, int *maxElements*) [pure virtual]

Removes at most the given number of available elements from this queue and adds them to the given collection. A failure encountered while attempting to add elements to collection `c` may result in elements being in neither, either or both collections when the associated exception is thrown. Attempts to drain a queue to itself result in `IllegalArgumentException`. Further, the behavior of this operation is undefined if the specified collection is modified while the operation is in progress.

Parameters:

c the collection to transfer elements into

maxElements the maximum number of elements to transfer

Returns:

the number of elements transferred

Exceptions:

UnsupportedOperationException if addition of elements is not supported by the specified collection

IllegalArgumentException if the specified collection is this queue, or some property of an element of this queue prevents it from being added to the specified collection

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1855), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2956), and **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1855).

6.87.3.2 template<typename E> virtual int decaf::util::concurrent::BlockingQueue< E >::drainTo (Collection< E > & *c*) [pure virtual]

Removes all available elements from this queue and adds them to the given collection. This operation may be more efficient than repeatedly polling this queue. A failure encountered while attempting to add elements to collection `c` may result in elements being in neither, either or both collections when the associated exception is thrown. Attempts to drain a queue to itself result in `IllegalArgumentException`. Further, the behavior of this operation is undefined if the specified collection is modified while the operation is in progress.

Parameters:

c the collection to transfer elements into

Returns:

the number of elements transferred

Exceptions:

UnsupportedOperationException if addition of elements is not supported by the specified collection

IllegalArgumentException if the specified collection is this queue, or some property of an element of this queue prevents it from being added to the specified collection

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1855), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2956), and **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1855).

6.87.3.3 template<typename E> virtual bool decaf::util::concurrent::BlockingQueue< E >::offer (const E & *e*, long long *timeout*, const TimeUnit & *unit*) [pure virtual]

Inserts the specified element into this queue, waiting up to the specified wait time if necessary for space to become available.

Parameters:

e the element to add

timeout how long to wait before giving up, in units of `unit`

unit a `TimeUnit` (p. 3072) determining how to interpret the `timeout` parameter

Returns:

`true` if successful, or `false` if the specified waiting time elapses before space is available

Exceptions:

InterruptedException if interrupted while waiting

NullPointerException if the specified element is null

IllegalArgumentException if some property of the specified element prevents it from being added to this queue

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1857), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2958), and **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1857).

6.87.3.4 template<typename E> virtual bool decaf::util::concurrent::BlockingQueue< E >::poll (E & *result*, long long *timeout*, const TimeUnit & *unit*) [pure virtual]

Retrieves and removes the head of this queue, waiting up to the specified wait time if necessary for an element to become available.

Parameters:

result the referenced value that will be assigned the value retrieved from the **Queue** (p. 2500). Undefined if this methods returned false.

timeout how long to wait before giving up, in units of `unit`

unit a `TimeUnit` (p. 3072) determining how to interpret the `timeout` parameter.

Returns:

`true` if successful or `false` if the specified waiting time elapses before an element is available.

Exceptions:

InterruptedException if interrupted while waiting

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1858), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2959), and **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1858).

6.87.3.5 template<typename E> virtual void decaf::util::concurrent::BlockingQueue< E >::put (const E & *value*) [pure virtual]

Inserts the specified element into this queue, waiting if necessary for space to become available.

Parameters:

value the element to add

Exceptions:

InterruptedException if interrupted while waiting

NullPointerException if the specified element is null

IllegalArgumentException if some property of the specified element prevents it from being added to this queue

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1859), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2960), and **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1859).

6.87.3.6 template<typename E> virtual int decaf::util::concurrent::BlockingQueue< E >::remainingCapacity () const [pure virtual]

Returns the number of additional elements that this queue can ideally (in the absence of memory or resource constraints) accept without blocking, or `Integer::MAX_VALUE` if there is no intrinsic limit. Note that you *cannot* always tell if an attempt to insert an element will succeed by inspecting `remainingCapacity` because it may be the case that another thread is about to insert or remove an element.

Returns:

the remaining capacity

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1859), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2960), and **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1859).

6.87.3.7 template<typename E> virtual E decaf::util::concurrent::BlockingQueue< E >::take () [pure virtual]

Retrieves and removes the head of this queue, waiting if necessary until an element becomes available.

Returns:

the head of this queue

Exceptions:

InterruptedException if interrupted while waiting

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1860), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2961), and **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1860).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**BlockingQueue.h**

6.88 decaf::lang::Boolean Class Reference

`#include <src/main/decaf/lang/Boolean.h>`Inheritance diagram for decaf::lang::Boolean:

Public Member Functions

- **Boolean** (bool value)
- **Boolean** (const std::string &value)
- virtual ~**Boolean** ()
- bool **booleanValue** () const
- std::string **toString** () const
- virtual int **compareTo** (const **Boolean** &b) const

  *Compares this **Boolean** (p. 690) instance with another.*

- virtual bool **operator==** (const **Boolean** &value) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const **Boolean** &value) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- bool **equals** (const **Boolean** &b) const
- virtual int **compareTo** (const bool &b) const

  *Compares this **Boolean** (p. 690) instance with another.*

- virtual bool **operator==** (const bool &value) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const bool &value) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- bool **equals** (const bool &b) const

Static Public Member Functions

- static **Boolean valueOf** (bool value)
- static **Boolean valueOf** (const std::string &value)
- static bool **parseBoolean** (const std::string &value)

  *Parses the **String** (p. 2919) passed and extracts an bool.*

- static std::string **toString** (bool value)

  *Converts the bool to a **String** (p. 2919) representation.*

Static Public Attributes

- static const **Boolean** **_FALSE**

  The Class object representing the primitive false boolean.

- static const **Boolean** **_TRUE**

  The Class object representing the primitive type boolean.

6.88.1 Constructor & Destructor Documentation

6.88.1.1 decaf::lang::Boolean::Boolean (bool *value*)

Parameters:

value - primitive boolean to wrap.

6.88.1.2 decaf::lang::Boolean::Boolean (const std::string & *value*)

Parameters:

value - **String** (p. 2919) value to convert to a boolean.

6.88.1.3 virtual decaf::lang::Boolean::~Boolean () [inline, virtual]

6.88.2 Member Function Documentation

6.88.2.1 bool decaf::lang::Boolean::booleanValue () const [inline]

Returns:

the primitive boolean value of this object

6.88.2.2 virtual int decaf::lang::Boolean::compareTo (const bool & *b*) const [virtual]

Compares this **Boolean** (p. 690) instance with another.

Parameters:

b - the **Boolean** (p. 690) instance to be compared

Returns:

zero if this object represents the same boolean value as the argument; a positive value if this object represents true and the argument represents false; and a negative value if this object represents false and the argument represents true

Implements **decaf::lang::Comparable< bool >** (p. 1031).

6.88.2.3 virtual int decaf::lang::Boolean::compareTo (const Boolean & *b*) const [virtual]

Compares this **Boolean** (p. 690) instance with another.

Parameters:

b - the **Boolean** (p. 690) instance to be compared

Returns:

zero if this object represents the same boolean value as the argument; a positive value if this object represents true and the argument represents false; and a negative value if this object represents false and the argument represents true

6.88.2.4 bool decaf::lang::Boolean::equals (const bool & *b*) const [inline, virtual]

Returns:

true if the two **Boolean** (p. 690) Objects have the same value.

Implements **decaf::lang::Comparable< bool >** (p. 1032).

6.88.2.5 bool decaf::lang::Boolean::equals (const Boolean & *b*) const [inline]

Returns:

true if the two **Boolean** (p. 690) Objects have the same value.

6.88.2.6 virtual bool decaf::lang::Boolean::operator< (const bool & *value*) const [virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< bool >** (p. 1032).

6.88.2.7 virtual bool decaf::lang::Boolean::operator< (const Boolean & *value*) const [virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.88.2.8 virtual bool decaf::lang::Boolean::operator== (const bool & *value*) const [virtual]

Compares equality between this object and the one passed.

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< bool >** (p. 1032).

6.88.2.9 virtual bool decaf::lang::Boolean::operator== (const Boolean & *value*) const [virtual]

Compares equality between this object and the one passed.

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.88.2.10 static bool decaf::lang::Boolean::parseBoolean (const std::string & *value*) [static]

Parses the **String** (p. 2919) passed and extracts an bool.

Parameters:

value The std::string value to parse

Returns:

bool value

6.88.2.11 static std::string decaf::lang::Boolean::toString (bool *value*) [static]

Converts the bool to a **String** (p. 2919) representation.

Parameters:

value The bool value to convert.

Returns:

std::string representation of the bool value passed.

6.88.2.12 std::string decaf::lang::Boolean::toString () const

Returns:

the string representation of this Booleans value.

6.88.2.13 static Boolean decaf::lang::Boolean::valueOf (const std::string & *value*) [static]

Parameters:

value The std::string value to convert to a `Boolean (p. 690)` instance.

Returns:

a **Boolean** (p. 690) instance of the string value

6.88.2.14 static Boolean decaf::lang::Boolean::valueOf (bool *value*) [static]

Parameters:

value The bool value to convert to a `Boolean (p. 690)` instance.

Returns:

a **Boolean** (p. 690) instance of the primitive boolean value

6.88.3 Field Documentation

6.88.3.1 const Boolean decaf::lang::Boolean::_FALSE [static]

The Class object representing the primitive false boolean.

6.88.3.2 const Boolean decaf::lang::Boolean::_TRUE [static]

The Class object representing the primitive type boolean.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Boolean.h**

6.89 activemq::commands::BooleanExpression Class Reference

`#include <src/main/activemq/commands/BooleanExpression.h>`Inheritance diagram for activemq::commands::BooleanExpression:

Public Member Functions

- **BooleanExpression** ()
- virtual ~**BooleanExpression** () throw ()
- virtual **DataStructure** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src AMQCPP_UNUSED)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure*** (p. *1293*) *such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

6.89.1 Constructor & Destructor Documentation

6.89.1.1 activemq::commands::BooleanExpression::BooleanExpression () [inline]

6.89.1.2 virtual activemq::commands::BooleanExpression::~BooleanExpression () throw () [inline, virtual]

6.89.2 Member Function Documentation

6.89.2.1 virtual DataStructure* activemq::commands::BooleanExpression::cloneDataStructure () const [inline, virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

References NULL.

6.89.2.2 virtual void activemq::commands::BooleanExpression::copyDataStructure (const DataStructure *src *AMQCPP_UNUSED*) [inline, virtual]

Reimplemented from **activemq::commands::BaseDataStructure** (p. 664).

6.89.2.3 virtual bool activemq::commands::BooleanExpression::equals (const DataStructure * *value*) const [inline, virtual]

References activemq::commands::BaseDataStructure::equals().

6.89.2.4 virtual std::string activemq::commands::BooleanExpression::toString () const [inline, virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

References activemq::commands::BaseDataStructure::toString().

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**BooleanExpression.h**

6.90 activemq::wireformat::openwire::utils::BooleanStream Class Reference

Manages the writing and reading of boolean data streams to and from a data source such as a DataInputStream or DataOutputStream.

`#include <src/main/activemq/wireformat/openwire/utils/BooleanStream.h>`

Public Member Functions

- **BooleanStream** ()
- virtual ~**BooleanStream** ()
- bool **readBoolean** ()

  Read a boolean data element from the internal data buffer.

- void **writeBoolean** (bool value)

  Writes a Boolean value to the internal data buffer.

- void **marshal** (**decaf::io::DataOutputStream** *dataOut)

  Marshal the data to a DataOutputStream.

- void **marshal** (std::vector< unsigned char > &dataOut)

  Marshal the data to a STL vector of unsigned chars.

- void **unmarshal** (**decaf::io::DataInputStream** *dataIn)

  Unmarshal a Boolean data stream from the Input Stream.

- void **clear** ()

  Clears to old position markers, data starts at the beginning.

- int **marshalledSize** ()

  Calc the size that data is marshalled to.

6.90.1 Detailed Description

Manages the writing and reading of boolean data streams to and from a data source such as a DataInputStream or DataOutputStream. The booleans are stored as single bits in the stream, with the stream size pre-pended to the stream when the data is marshalled.

The serialized form of the size field can be between 1 and 3 bytes. If the number of used bytes < 64, size=1 byte If the number of used bytes >=64 and < 256 (size of an unsigned byte), size=2 bytes If the number of used bytes >=256, size=3 bytes

The high-order 2 bits (128 and 64) of the first byte of the size field are used to encode the information about the number of bytes in the size field. The only time the first byte will contain a value >=64 is if there are more bytes in the size field. If the first byte < 64, the value of the byte is simply the size value. If the first byte = 0xC0, the following unsigned byte is the size field. If the first byte = 0x80, the following short (two bytes) are the size field.

6.90.2 Constructor & Destructor Documentation

6.90.2.1 activemq::wireformat::openwire::utils::BooleanStream::BooleanStream ()

6.90.2.2 virtual activemq::wireformat::openwire::utils::BooleanStream::~BooleanStream () [virtual]

6.90.3 Member Function Documentation

6.90.3.1 void activemq::wireformat::openwire::utils::BooleanStream::clear ()

Clears to old position markers, data starts at the beginning.

6.90.3.2 void activemq::wireformat::openwire::utils::BooleanStream::marshal (std::vector< unsigned char > & *dataOut*)

Marshal the data to a STL vector of unsigned chars.

Parameters:

dataOut - reference to a vector to write the data to.

Exceptions:

IOException if an I/O error occurs during this operation.

6.90.3.3 void activemq::wireformat::openwire::utils::BooleanStream::marshal (decaf::io::DataOutputStream * *dataOut*)

Marshal the data to a DataOutputStream.

Parameters:

dataOut - Stream to write the data to.

Exceptions:

IOException if an I/O error occurs during this operation.

6.90.3.4 int activemq::wireformat::openwire::utils::BooleanStream::marshalledSize ()

Calc the size that data is marshalled to.

Returns:

int size of marshalled data.

6.90.3.5 bool activemq::wireformat::openwire::utils::BooleanStream::readBoolean ()

Read a boolean data element from the internal data buffer.

Returns:

boolean from the stream

Exceptions:

IOException if an I/O error occurs during this operation.

Referenced by activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectArray2().

6.90.3.6 void activemq::wireformat::openwire::utils::BooleanStream::unmarshal (decaf::io::DataInputStream * *dataIn*)

Unmarshal a Boolean data stream from the Input Stream.

Parameters:

dataIn - Input Stream to read data from.

Exceptions:

IOException if an I/O error occurs during this operation.

6.90.3.7 void activemq::wireformat::openwire::utils::BooleanStream::writeBoolean (bool *value*)

Writes a Boolean value to the internal data buffer.

Parameters:

value - boolean data to write.

Exceptions:

IOException if an I/O error occurs during this operation.

Referenced by activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectArray1().

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/utils/**BooleanStream.h**

6.91 decaf::util::concurrent::BrokenBarrierException Class Reference

`#include <src/main/decaf/util/concurrent/BrokenBarrierException.h>`Inheritance diagram for decaf::util::concurrent::BrokenBarrierException:

Public Member Functions

- **BrokenBarrierException** ()
  Default Constructor.
- **BrokenBarrierException** (const **decaf::lang::Exception** &ex)
  Conversion Constructor from some other Exception.
- **BrokenBarrierException** (const **BrokenBarrierException** &ex)
  Copy Constructor.
- **BrokenBarrierException** (const std::exception *cause)
  Constructor.
- **BrokenBarrierException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **BrokenBarrierException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **BrokenBarrierException** * **clone** () const
  Clones this exception.
- virtual ~**BrokenBarrierException** () throw ()

6.91.1 Constructor & Destructor Documentation

6.91.1.1 decaf::util::concurrent::BrokenBarrierException::BrokenBarrierException () `[inline]`

Default Constructor.

6.91.1.2 decaf::util::concurrent::BrokenBarrierException::BrokenBarrierException (const decaf::lang::Exception & *ex*) `[inline]`

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.91.1.3 decaf::util::concurrent::BrokenBarrierException::BrokenBarrierException (const BrokenBarrierException & *ex*) [inline]

Copy Constructor.

Parameters:

ex The Exception to copy in this new instance.

6.91.1.4 decaf::util::concurrent::BrokenBarrierException::BrokenBarrierException (const std::exception * *cause*) [inline]

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.91.1.5 decaf::util::concurrent::BrokenBarrierException::BrokenBarrierException (const char * *file*, const int *lineNumber*, const char * *msg*, ...) [inline]

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file - The file name where exception occurs

lineNumber - The line number where the exception occurred.

msg - The message to report

... - list of primitives that are formatted into the message

6.91.1.6 decaf::util::concurrent::BrokenBarrierException::BrokenBarrierException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...) [inline]

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file - The file name where exception occurs

lineNumber - The line number where the exception occurred.

cause - The exception that was the cause for this one to be thrown.

msg - The message to report

... - list of primitives that are formatted into the message

6.91.1.7 virtual decaf::util::concurrent::BrokenBarrierException::~BrokenBarrierException () throw () [virtual]

6.91.2 Member Function Documentation

6.91.2.1 virtual BrokenBarrierException* decaf::util::concurrent::BrokenBarrierException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new instance of an exception that is a clone of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**BrokenBarrierException.h**

6.92 activemq::commands::BrokerError Class Reference

This class represents an Exception sent from the Broker.

`#include <src/main/activemq/commands/BrokerError.h>`Inheritance diagram for activemq::commands::BrokerError:

Data Structures

- struct **StackTraceElement**

Public Member Functions

- **BrokerError** ()
- **BrokerError** (**decaf::lang::Pointer**< **decaf::lang::Exception** > exCause)
- virtual ~**BrokerError** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **BrokerError** * **cloneDataStructure** () const

  Clone this object and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)

  Copy the contents of the passed object into this objects members, overwriting any existing data.

- virtual **decaf::lang::Pointer**< **commands::Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

- virtual const std::string & **getMessage** () const

  Gets the string holding the error message.

- virtual void **setMessage** (const std::string &message)

  *Sets the string that contains the error **Message** (p. 2059).*

- virtual const std::string & **getExceptionClass** () const

  Gets the string holding the Exception Class name.

- virtual void **setExceptionClass** (const std::string &exceptionClass)

  Sets the string that contains the Exception Class name.

- virtual const **decaf::lang::Pointer**< **BrokerError** > & **getCause** () const

  Gets the Broker Error that caused this exception.

- virtual void **setCause** (const **decaf::lang::Pointer**< **BrokerError** > &cause)

  Sets the Broker Error that caused this exception.

- virtual const std::vector< **decaf::lang::Pointer**< **StackTraceElement** > > & **getStackTraceElements** () const

  Gets the Stack Trace Elements for the Exception.

- virtual void **setStackTraceElements** (const std::vector< **decaf::lang::Pointer**< **StackTraceElement** > > &stackTraceElements)

  Sets the Stack Trace Elements for this Exception.

- **decaf::lang::Pointer**< **decaf::lang::Exception** > **getLocalException** () const
- void **setLocalException** (**decaf::lang::Pointer**< **decaf::lang::Exception** > exCause)

  Sets the Pointer to the local exception that is the source of this Error.

- **exceptions::ActiveMQException createExceptionObject** ()

  Creates and returns a ActiveMQException object that contains the error data from the Broker.

6.92.1 Detailed Description

This class represents an Exception sent from the Broker. The Broker sends a java Throwable structure, so we must mimic its structure here. We provide a means in this class to create a Decaf Exception that represents the error from the broker.

6.92.2 Constructor & Destructor Documentation

6.92.2.1 activemq::commands::BrokerError::BrokerError ()

6.92.2.2 activemq::commands::BrokerError::BrokerError (decaf::lang::Pointer< decaf::lang::Exception > *exCause*)

6.92.2.3 virtual activemq::commands::BrokerError::~BrokerError () [virtual]

6.92.3 Member Function Documentation

6.92.3.1 virtual BrokerError* activemq::commands::BrokerError::cloneDataStructure () const [inline, virtual]

Clone this object and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

References copyDataStructure().

6.92.3.2 virtual void activemq::commands::BrokerError::copyDataStructure (const DataStructure * *src*) [virtual]

Copy the contents of the passed object into this objects members, overwriting any existing data.

Returns:

src - Source Object

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

Referenced by cloneDataStructure().

6.92.3.3 exceptions::ActiveMQException activemq::commands::BrokerError::createExceptionObject ()

Creates and returns a ActiveMQException object that contains the error data from the Broker. The returned exception will if possible contain a **cms::CMSException** (p. 973) pointer that represents the actual JMS exception that was forwarded from the broker.

Returns:

a new instance of an ActiveMQException

6.92.3.4 virtual const decaf::lang::Pointer<BrokerError>& activemq::commands::BrokerError::getCause () const [inline, virtual]

Gets the Broker Error that caused this exception.

Returns:

Broker Error Pointer

6.92.3.5 virtual unsigned char activemq::commands::BrokerError::getDataStructureType () const [inline, virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.92.3.6 virtual const std::string& activemq::commands::BrokerError::getExceptionClass () const [inline, virtual]

Gets the string holding the Exception Class name.

Returns:

Exception Class name

6.92.3.7 decaf::lang::Pointer<decaf::lang::Exception> activemq::commands::BrokerError::getLocalException () const [inline]

Returns:

the local Exception that was the source of this **BrokerError** (p. 703) instance

6.92.3.8 virtual const std::string& activemq::commands::BrokerError::getMessage () const [inline, virtual]

Gets the string holding the error message.

Returns:

String **Message** (p. 2059)

6.92.3.9 virtual const std::vector<decaf::lang::Pointer<StackTraceElement> >& activemq::commands::BrokerError::getStackTraceElements () const [inline, virtual]

Gets the Stack Trace Elements for the Exception.

Returns:

Stack Trace Elements

6.92.3.10 virtual void activemq::commands::BrokerError::setCause (const decaf::lang::Pointer< BrokerError > & *cause*) [inline, virtual]

Sets the Broker Error that caused this exception.

Parameters:

cause - Broker Error

6.92.3.11 virtual void activemq::commands::BrokerError::setExceptionClass (const std::string & *exceptionClass*) [inline, virtual]

Sets the string that contains the Exception Class name.

Parameters:

exceptionClass - String Exception Class name

6.92.3.12 void activemq::commands::BrokerError::setLocalException (decaf::lang::Pointer< decaf::lang::Exception > *exCause*) [inline]

Sets the Pointer to the local exception that is the source of this Error.

Parameters:

exCause The Exception that originated this **BrokerError** (p. 703).

6.92.3.13 virtual void activemq::commands::BrokerError::setMessage (const std::string & *message*) [inline, virtual]

Sets the string that contains the error **Message** (p. 2059).

Parameters:

message - String Error **Message** (p. 2059)

6.92.3.14 virtual void activemq::commands::BrokerError::setStackTraceElements (const std::vector< decaf::lang::Pointer< StackTraceElement > > & *stackTraceElements*) [inline, virtual]

Sets the Stack Trace Elements for this Exception.

Parameters:

stackTraceElements - Stack Trace Elements

6.92.3.15 virtual decaf::lang::Pointer<commands::Command> activemq::commands::BrokerError::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**BrokerError.h**

6.93 activemq::exceptions::BrokerException Class Reference

`#include <src/main/activemq/exceptions/BrokerException.h>`Inheritance diagram for activemq::exceptions::BrokerException:

Public Member Functions

- **BrokerException** ()
- **BrokerException** (const **exceptions::ActiveMQException** &ex)
- **BrokerException** (const **BrokerException** &ex)
- **BrokerException** (const char *file, const int lineNumber, const char *msg,...)
- **BrokerException** (const char *file, const int lineNumber, const **commands::BrokerError** *error)
- virtual **BrokerException** * **clone** () const

  Clones this exception.

- virtual ~**BrokerException** () throw ()

6.93.1 Constructor & Destructor Documentation

6.93.1.1 activemq::exceptions::BrokerException::BrokerException ()

6.93.1.2 activemq::exceptions::BrokerException::BrokerException (const exceptions::ActiveMQException & *ex*)

6.93.1.3 activemq::exceptions::BrokerException::BrokerException (const BrokerException & *ex*)

6.93.1.4 activemq::exceptions::BrokerException::BrokerException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

6.93.1.5 activemq::exceptions::BrokerException::BrokerException (const char * *file*, const int *lineNumber*, const commands::BrokerError * *error*)

6.93.1.6 virtual activemq::exceptions::BrokerException::~BrokerException () throw () [virtual]

6.93.2 Member Function Documentation

6.93.2.1 virtual BrokerException* activemq::exceptions::BrokerException::clone () const [virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

new **BrokerException** (p. 708) instance that is a clone of this one.

Reimplemented from **activemq::exceptions::ActiveMQException** (p. 336).

The documentation for this class was generated from the following file:

- src/main/activemq/exceptions/**BrokerException.h**

6.94 activemq::commands::BrokerId Class Reference

`#include <src/main/activemq/commands/BrokerId.h>`Inheritance diagram for activemq::commands::BrokerId:

Public Types

- typedef **decaf::lang::PointerComparator< BrokerId > COMPARATOR**

Public Member Functions

- **BrokerId** ()
- **BrokerId** (const **BrokerId** &other)
- virtual ~**BrokerId** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **BrokerId** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *__value__) const
- virtual const std::string & **getValue** () const
- virtual std::string & **getValue** ()
- virtual void **setValue** (const std::string &__value__)
- virtual int **compareTo** (const **BrokerId** &__value__) const
- virtual bool **equals** (const **BrokerId** &__value__) const
- virtual bool **operator==** (const **BrokerId** &__value__) const
- virtual bool **operator<** (const **BrokerId** &__value__) const
- **BrokerId** & **operator=** (const **BrokerId** &other)
- int **getHashCode** () const

Static Public Attributes

- static const unsigned char **ID_BROKERID** = 124

Protected Attributes

- std::string **value**

6.94.1 Member Typedef Documentation

6.94.1.1 typedef decaf::lang::PointerComparator<BrokerId> activemq::commands::BrokerId::COMPARATOR

6.94.2 Constructor & Destructor Documentation

6.94.2.1 activemq::commands::BrokerId::BrokerId ()

6.94.2.2 activemq::commands::BrokerId::BrokerId (const BrokerId & *other*)

6.94.2.3 virtual activemq::commands::BrokerId::~BrokerId () [virtual]

6.94.3 Member Function Documentation

6.94.3.1 virtual BrokerId* activemq::commands::BrokerId::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.94.3.2 virtual int activemq::commands::BrokerId::compareTo (const BrokerId & *value*) const [virtual]

6.94.3.3 virtual void activemq::commands::BrokerId::copyDataStructure (const DataStructure * *src*) [virtual]

6.94.3.4 virtual bool activemq::commands::BrokerId::equals (const BrokerId & *value*) const [virtual]

6.94.3.5 virtual bool activemq::commands::BrokerId::equals (const DataStructure * *value*) const [virtual]

6.94.3.6 virtual unsigned char activemq::commands::BrokerId::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.94.3.7 int activemq::commands::BrokerId::getHashCode () const

6.94.3.8 virtual std::string& activemq::commands::BrokerId::getValue () [virtual]

6.94.3.9 virtual const std::string& activemq::commands::BrokerId::getValue () const [virtual]

6.94.3.10 virtual bool activemq::commands::BrokerId::operator< (const BrokerId & *value*) const [virtual]

6.94.3.11 BrokerId& activemq::commands::BrokerId::operator= (const BrokerId & *other*)

6.94.3.12 virtual bool activemq::commands::BrokerId::operator== (const BrokerId & *value*) const [virtual]

6.94.3.13 virtual void activemq::commands::BrokerId::setValue (const std::string & *value*) [virtual]

6.94.3.14 virtual std::string activemq::commands::BrokerId::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.94.4 Field Documentation

6.94.4.1 const unsigned char activemq::commands::BrokerId::ID_BROKERID = 124 [static]

6.94.4.2 std::string activemq::commands::BrokerId::value [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**BrokerId.h**

6.95 activemq::wireformat::openwire::marshal::generated::BrokerIdMars Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **BrokerIdMarshaller** (p. 713).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/BrokerIdMarshaller.h>`Inheritanc diagram for activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller:

Public Member Functions

- **BrokerIdMarshaller** ()
- virtual ~**BrokerIdMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.95.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **BrokerIdMarshaller** (p. 713). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.95.2 Constructor & Destructor Documentation

6.95.2.1 activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller::BrokerIdMarshal () [inline]

6.95.2.2 virtual activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller::~BrokerIdMarsh () [inline, virtual]

6.95.3 Member Function Documentation

6.95.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.95.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller::getDataStructureT () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.95.3.3 virtual void activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.95.3.4 virtual void activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller::looseUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.95.3.5 virtual int activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.95.3.6 virtual void activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.95.3.7 virtual void activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller::tightUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**BrokerIdMarshaller.h**

6.96 activemq::commands::BrokerInfo Class Reference

`#include <src/main/activemq/commands/BrokerInfo.h>`Inheritance diagram for activemq::commands::BrokerInfo:

Public Member Functions

- **BrokerInfo** ()
- virtual ~**BrokerInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **BrokerInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **BrokerId** > & **getBrokerId** () const
- virtual **Pointer**< **BrokerId** > & **getBrokerId** ()
- virtual void **setBrokerId** (const **Pointer**< **BrokerId** > &**brokerId**)
- virtual const std::string & **getBrokerURL** () const
- virtual std::string & **getBrokerURL** ()
- virtual void **setBrokerURL** (const std::string &**brokerURL**)
- virtual const std::vector< **decaf::lang::Pointer**< **BrokerInfo** > > & **getPeerBrokerInfos** () const
- virtual std::vector< **decaf::lang::Pointer**< **BrokerInfo** > > & **getPeerBrokerInfos** ()
- virtual void **setPeerBrokerInfos** (const std::vector< **decaf::lang::Pointer**< **BrokerInfo** > > &**peerBrokerInfos**)
- virtual const std::string & **getBrokerName** () const
- virtual std::string & **getBrokerName** ()
- virtual void **setBrokerName** (const std::string &**brokerName**)
- virtual bool **isSlaveBroker** () const
- virtual void **setSlaveBroker** (bool **slaveBroker**)
- virtual bool **isMasterBroker** () const
- virtual void **setMasterBroker** (bool **masterBroker**)
- virtual bool **isFaultTolerantConfiguration** () const
- virtual void **setFaultTolerantConfiguration** (bool **faultTolerantConfiguration**)
- virtual bool **isDuplexConnection** () const
- virtual void **setDuplexConnection** (bool **duplexConnection**)
- virtual bool **isNetworkConnection** () const
- virtual void **setNetworkConnection** (bool **networkConnection**)

- virtual long long **getConnectionId** () const
- virtual void **setConnectionId** (long long **connectionId**)
- virtual const std::string & **getBrokerUploadUrl** () const
- virtual std::string & **getBrokerUploadUrl** ()
- virtual void **setBrokerUploadUrl** (const std::string &**brokerUploadUrl**)
- virtual const std::string & **getNetworkProperties** () const
- virtual std::string & **getNetworkProperties** ()
- virtual void **setNetworkProperties** (const std::string &**networkProperties**)
- virtual bool **isBrokerInfo** () const
- virtual **Pointer< Command > visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_BROKERINFO** = 2

Protected Attributes

- **Pointer< BrokerId > brokerId**
- std::string **brokerURL**
- std::vector< **decaf::lang::Pointer< BrokerInfo > > peerBrokerInfos**
- std::string **brokerName**
- bool **slaveBroker**
- bool **masterBroker**
- bool **faultTolerantConfiguration**
- bool **duplexConnection**
- bool **networkConnection**
- long long **connectionId**
- std::string **brokerUploadUrl**
- std::string **networkProperties**

6.96.1 Constructor & Destructor Documentation

6.96.1.1 activemq::commands::BrokerInfo::BrokerInfo ()

6.96.1.2 virtual activemq::commands::BrokerInfo::~BrokerInfo () [virtual]

6.96.2 Member Function Documentation

6.96.2.1 virtual BrokerInfo* activemq::commands::BrokerInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.96.2.2 virtual void activemq::commands::BrokerInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.96.2.3 virtual bool activemq::commands::BrokerInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.96.2.4 virtual Pointer<BrokerId>& activemq::commands::BrokerInfo::getBrokerId () [virtual]

6.96.2.5 virtual const Pointer<BrokerId>& activemq::commands::BrokerInfo::getBrokerId () const [virtual]

6.96.2.6 virtual std::string& activemq::commands::BrokerInfo::getBrokerName () [virtual]

6.96.2.7 virtual const std::string& activemq::commands::BrokerInfo::getBrokerName () const [virtual]

6.96.2.8 virtual std::string& activemq::commands::BrokerInfo::getBrokerUploadUrl () [virtual]

6.96.2.9 virtual const std::string& activemq::commands::BrokerInfo::getBrokerUploadUrl () const [virtual]

6.96.2.10 virtual std::string& activemq::commands::BrokerInfo::getBrokerURL () [virtual]

6.96.2.11 virtual const std::string& activemq::commands::BrokerInfo::getBrokerURL () const [virtual]

6.96.2.12 virtual long long activemq::commands::BrokerInfo::getConnectionId () const [virtual]

6.96.2.13 virtual unsigned char activemq::commands::BrokerInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.96.2.14 virtual std::string& activemq::commands::BrokerInfo::getNetworkProperties () [virtual]

6.96.2.15 virtual const std::string& activemq::commands::BrokerInfo::getNetworkProperties () const [virtual]

6.96.2.16 virtual std::vector< decaf::lang::Pointer<BrokerInfo> >& activemq::commands::BrokerInfo::getPeerBrokerInfos () [virtual]

6.96.2.17 virtual const std::vector< decaf::lang::Pointer<BrokerInfo> >& activemq::commands::BrokerInfo::getPeerBrokerInfos () const [virtual]

6.96.2.18 virtual bool activemq::commands::BrokerInfo::isBrokerInfo () const [inline, virtual]

Returns:

an answer of true to the **isBrokerInfo()** (p. 721) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 631).

6.96.2.19 **virtual bool activemq::commands::BrokerInfo::isDuplexConnection () const** [virtual]

6.96.2.20 **virtual bool activemq::commands::BrokerInfo::isFaultTolerantConfiguration () const** [virtual]

6.96.2.21 **virtual bool activemq::commands::BrokerInfo::isMasterBroker () const** [virtual]

6.96.2.22 **virtual bool activemq::commands::BrokerInfo::isNetworkConnection () const** [virtual]

6.96.2.23 **virtual bool activemq::commands::BrokerInfo::isSlaveBroker () const** [virtual]

6.96.2.24 **virtual void activemq::commands::BrokerInfo::setBrokerId (const Pointer< BrokerId > & *brokerId*)** [virtual]

6.96.2.25 **virtual void activemq::commands::BrokerInfo::setBrokerName (const std::string & *brokerName*)** [virtual]

6.96.2.26 **virtual void activemq::commands::BrokerInfo::setBrokerUploadUrl (const std::string & *brokerUploadUrl*)** [virtual]

6.96.2.27 **virtual void activemq::commands::BrokerInfo::setBrokerURL (const std::string & *brokerURL*)** [virtual]

6.96.2.28 **virtual void activemq::commands::BrokerInfo::setConnectionId (long long *connectionId*)** [virtual]

6.96.2.29 **virtual void activemq::commands::BrokerInfo::setDuplexConnection (bool *duplexConnection*)** [virtual]

6.96.2.30 **virtual void activemq::commands::BrokerInfo::setFaultTolerantConfiguration (bool *faultTolerantConfiguration*)** [virtual]

6.96.2.31 **virtual void activemq::commands::BrokerInfo::setMasterBroker (bool *masterBroker*)** [virtual]

6.96.2.32 **virtual void activemq::commands::BrokerInfo::setNetworkConnection (bool *networkConnection*)** [virtual]

6.96.2.33 **virtual void activemq::commands::BrokerInfo::setNetworkProperties (const std::string & *networkProperties*)** [virtual]

6.96.2.34 **virtual void activemq::commands::BrokerInfo::setPeerBrokerInfos (const std::vector< decaf::lang::Pointer< BrokerInfo > > & *peerBrokerInfos*)** [virtual]

6.96.2.35 **virtual void activemq::commands::BrokerInfo::setSlaveBroker (bool *slaveBroker*)** [virtual]

6.96.2.36 **virtual std::string activemq::commands::BrokerInfo::toString () const** [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.96.2.37 virtual Pointer<Command> activemq::commands::BrokerInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.96.3 Field Documentation

6.96.3.1 Pointer<BrokerId> activemq::commands::BrokerInfo::brokerId [protected]

6.96.3.2 std::string activemq::commands::BrokerInfo::brokerName [protected]

6.96.3.3 std::string activemq::commands::BrokerInfo::brokerUploadUrl [protected]

6.96.3.4 std::string activemq::commands::BrokerInfo::brokerURL [protected]

6.96.3.5 long long activemq::commands::BrokerInfo::connectionId [protected]

6.96.3.6 bool activemq::commands::BrokerInfo::duplexConnection [protected]

6.96.3.7 bool activemq::commands::BrokerInfo::faultTolerantConfiguration [protected]

6.96.3.8 const unsigned char activemq::commands::BrokerInfo::ID_BROKERINFO = 2 [static]

6.96.3.9 bool activemq::commands::BrokerInfo::masterBroker [protected]

6.96.3.10 bool activemq::commands::BrokerInfo::networkConnection [protected]

6.96.3.11 std::string activemq::commands::BrokerInfo::networkProperties [protected]

6.96.3.12 std::vector< decaf::lang::Pointer<BrokerInfo> > activemq::commands::BrokerInfo::peerBrokerInfos [protected]

6.96.3.13 bool activemq::commands::BrokerInfo::slaveBroker [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**BrokerInfo.h**

6.97 activemq::wireformat::openwire::marshal::generated::BrokerInfoMa Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **BrokerInfoMarshaller** (p. 725).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/BrokerInfoMarshaller.h>`Inherita diagram for activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller:

Public Member Functions

- **BrokerInfoMarshaller** ()
- virtual ~**BrokerInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.97.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **BrokerInfoMarshaller** (p. 725). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.97.2 Constructor & Destructor Documentation

6.97.2.1 activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller::BrokerInfoMar() [inline]

6.97.2.2 virtual activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller::~BrokerInfoMa() [inline, virtual]

6.97.3 Member Function Documentation

6.97.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.97.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller::getDataStructure() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.97.3.3 virtual void activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.97.3.4 virtual void activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller::looseUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.97.3.5 virtual int activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.97.3.6 virtual void activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.97.3.7 virtual void activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller::tightUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**BrokerInfoMarshaller.h**

6.98 decaf::nio::Buffer Class Reference

A container for data of a specific primitive type.

`#include <src/main/decaf/nio/Buffer.h>`Inheritance diagram for decaf::nio::Buffer:

Public Member Functions

- **Buffer** (int capactiy)
- **Buffer** (const **Buffer** &other)
- virtual ~**Buffer** ()
- virtual int **capacity** () const
- virtual int **position** () const
- virtual **Buffer** & **position** (int newPosition)

  Sets this buffer's position.

- virtual int **limit** () const
- virtual **Buffer** & **limit** (int newLimit)

  Sets this buffer's limit.

- virtual **Buffer** & **mark** ()

  Sets this buffer's mark at its position.

- virtual **Buffer** & **reset** ()

  Resets this buffer's position to the previously-marked position.

- virtual **Buffer** & **clear** ()

  Clears this buffer.

- virtual **Buffer** & **flip** ()

  Flips this buffer.

- virtual **Buffer** & **rewind** ()

  Rewinds this buffer.

- virtual int **remaining** () const

  Returns the number of elements between the current position and the limit.

- virtual bool **hasRemaining** () const

  Tells whether there are any elements between the current position and the limit.

- virtual bool **isReadOnly** () const =0

  Tells whether or not this buffer is read-only.

Protected Attributes

- int **_position**
- int **_capacity**
- int **_limit**
- int **_mark**
- bool **_markSet**

6.98.1 Detailed Description

A container for data of a specific primitive type. A buffer is a linear, finite sequence of elements of a specific primitive type. Aside from its content, the essential properties of a buffer are its capacity, limit, and position:

A buffer's capacity is the number of elements it contains. The capacity of a buffer is never negative and never changes.

A buffer's limit is the index of the first element that should not be read or written. A buffer's limit is never negative and is never greater than its capacity.

A buffer's position is the index of the next element to be read or written. A buffer's position is never negative and is never greater than its limit.

There is one subclass of this class for each non-boolean primitive type.

Transferring data: Each subclass of this class defines two categories of get and put operations: * Relative operations read or write one or more elements starting at the current position and then increment the position by the number of elements transferred. If the requested transfer exceeds the limit then a relative get operation throws a **BufferUnderflowException** (p. 757) and a relative put operation throws a **BufferOverflowException** (p. 754); in either case, no data is transferred. * Absolute operations take an explicit element index and do not affect the position. Absolute get and put operations throw an IndexOutOfBoundsException if the index argument exceeds the limit.

Data may also, of course, be transferred in to or out of a buffer by the I/O operations of an appropriate channel, which are always relative to the current position.

Marking and resetting:

A buffer's mark is the index to which its position will be reset when the reset method is invoked. The mark is not always defined, but when it is defined it is never negative and is never greater than the position. If the mark is defined then it is discarded when the position or the limit is adjusted to a value smaller than the mark. If the mark is not defined then invoking the reset method causes an **InvalidMarkException** (p. 1766) to be thrown.

Invariants:

The following invariant holds for the mark, position, limit, and capacity values: 0 <= mark <= position <= limit <= capacity

A newly-created buffer always has a position of zero and a mark that is undefined. The initial limit may be zero, or it may be some other value that depends upon the type of the buffer and the manner in which it is constructed. The initial content of a buffer is, in general, undefined.

Clearing, flipping, and rewinding:

In addition to methods for accessing the position, limit, and capacity values and for marking and resetting, this class also defines the following operations upon buffers:

clear() (p. 731) makes a buffer ready for a new sequence of channel-read or relative put operations: It sets the limit to the capacity and the position to zero.

flip() (p. 732) makes a buffer ready for a new sequence of channel-write or relative get operations: It sets the limit to the current position and then sets the position to zero.

rewind() (p. 734) makes a buffer ready for re-reading the data that it already contains: It leaves the limit unchanged and sets the position to zero.

Read-only buffers:

Every buffer is readable, but not every buffer is writable. The mutation methods of each buffer class are specified as optional operations that will throw a **ReadOnlyBufferException** (p. 2520) when invoked upon a read-only buffer. A read-only buffer does not allow its content to be changed, but its mark, position, and limit values are mutable. Whether or not a buffer is read-only may be determined by invoking its isReadOnly method.

Thread safety:

Buffers are not safe for use by multiple concurrent threads. If a buffer is to be used by more than one thread then access to the buffer should be controlled by appropriate synchronization.

Invocation chaining:

Methods in this class that do not otherwise have a value to return are specified to return the buffer upon which they are invoked. This allows method invocations to be chained; for example, the sequence of statements

b.flip(); b.position(23); b.limit(42);

can be replaced by the single, more compact statement b.flip().position(23).limit(42);

6.98.2 Constructor & Destructor Documentation

6.98.2.1 decaf::nio::Buffer::Buffer (int *capactiy*)

6.98.2.2 decaf::nio::Buffer::Buffer (const Buffer & *other*)

6.98.2.3 virtual decaf::nio::Buffer::~Buffer () [inline, virtual]

6.98.3 Member Function Documentation

6.98.3.1 virtual int decaf::nio::Buffer::capacity () const [inline, virtual]

Returns:

this buffer's capacity.

6.98.3.2 virtual Buffer& decaf::nio::Buffer::clear () [virtual]

Clears this buffer. The position is set to zero, the limit is set to the capacity, and the mark is discarded.

Invoke this method before using a sequence of channel-read or put operations to fill this buffer. For example:

buf.clear(); // Prepare buffer for reading in.read(buf); // Read data

This method does not actually erase the data in the buffer, but it is named as if it did because it will most often be used in situations in which that might as well be the case.

Returns:

a reference to this buffer.

6.98.3.3 virtual Buffer& decaf::nio::Buffer::flip () [virtual]

Flips this buffer. The limit is set to the current position and then the position is set to zero. If the mark is defined then it is discarded.

After a sequence of channel-read or put operations, invoke this method to prepare for a sequence of channel-write or relative get operations. For example:

buf.put(magic); // Prepend header in.read(buf); // Read data into rest of buffer buf.flip(); // Flip buffer out.write(buf); // Write header + data to channel

This method is often used in conjunction with the compact method when transferring data from one place to another.

Returns:

a reference to this buffer.

6.98.3.4 virtual bool decaf::nio::Buffer::hasRemaining () const [inline, virtual]

Tells whether there are any elements between the current position and the limit.

Returns:

true if, and only if, there is at least one element remaining in this buffer.

6.98.3.5 virtual bool decaf::nio::Buffer::isReadOnly () const [pure virtual]

Tells whether or not this buffer is read-only.

Returns:

true if, and only if, this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 810), **decaf::internal::nio::CharArrayBuffer** (p. 924), **decaf::internal::nio::DoubleArrayBuffer** (p. 1421), **decaf::internal::nio::FloatArrayBuffer** (p. 1536), **decaf::internal::nio::IntArrayBuffer** (p. 1713), **decaf::internal::nio::LongArrayBuffer** (p. 1975), **decaf::internal::nio::ShortArrayBuffer** (p. 2722), and **decaf::nio::ByteBuffer** (p. 841).

6.98.3.6 virtual Buffer& decaf::nio::Buffer::limit (int *newLimit*) [virtual]

Sets this buffer's limit. If the position is larger than the new limit then it is set to the new limit. If the mark is defined and larger than the new limit then it is discarded.

Parameters:

newLimit The new limit value; must be no larger than this buffer's capacity.

Returns:

A reference to This buffer

Exceptions:

IllegalArgumentException if preconditions on the new pos don't hold.

6.98.3.7 virtual int decaf::nio::Buffer::limit () const [inline, virtual]

Returns:

this buffers Limit

6.98.3.8 virtual Buffer& decaf::nio::Buffer::mark () [virtual]

Sets this buffer's mark at its position.

Returns:

a reference to this buffer.

6.98.3.9 virtual Buffer& decaf::nio::Buffer::position (int *newPosition*) [virtual]

Sets this buffer's position. If the mark is defined and larger than the new position then it is discarded.

Parameters:

newPosition The new postion in the buffer to set.

Returns:

a reference to This buffer.

Exceptions:

IllegalArgumentException if preconditions on the new pos don't hold.

6.98.3.10 virtual int decaf::nio::Buffer::position () const [inline, virtual]

Returns:

the current position in the buffer

6.98.3.11 virtual int decaf::nio::Buffer::remaining () const [inline, virtual]

Returns the number of elements between the current position and the limit.

Returns:

The number of elements remaining in this buffer

6.98.3.12 virtual Buffer& decaf::nio::Buffer::reset () [virtual]

Resets this buffer's position to the previously-marked position.

Returns:

a reference to this buffer.

Exceptions:

InvalidMarkException *(*p. ***1766****)* - If the mark has not been set

6.98.3.13 virtual Buffer& decaf::nio::Buffer::rewind () [virtual]

Rewinds this buffer. The position is set to zero and the mark is discarded.

Invoke this method before a sequence of channel-write or get operations, assuming that the limit has already been set appropriately. For example:

out.write(buf); // Write remaining data buf.rewind(); // Rewind buffer buf.get(array); // Copy data into array

Returns:

a reference to this buffer.

6.98.4 Field Documentation

6.98.4.1 int decaf::nio::Buffer::_capacity [protected]

6.98.4.2 int decaf::nio::Buffer::_limit [protected]

6.98.4.3 int decaf::nio::Buffer::_mark [protected]

6.98.4.4 bool decaf::nio::Buffer::_markSet [protected]

6.98.4.5 int decaf::nio::Buffer::_position [mutable, protected]

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**Buffer.h**

6.99 decaf::io::BufferedInputStream Class Reference

A wrapper around another input stream that performs a buffered read, where it reads more data than it needs in order to reduce the number of **io** (p. 109) operations on the input stream.

`#include <src/main/decaf/io/BufferedInputStream.h>`Inheritance diagram for decaf::io::BufferedInputStream:

Public Member Functions

- **BufferedInputStream** (**InputStream** *stream, bool **own**=false)

  Constructor.

- **BufferedInputStream** (**InputStream** *stream, int bufferSize, bool **own**=false)

  Constructor.

- virtual ~**BufferedInputStream** ()
- virtual int **available** () const

  Indicates the number of bytes available.
  The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.
  The default implementation of this method returns zero.
  Returns:

  the number of bytes available on this input stream.
  Exceptions:

  IOException *(p. **1774**) if an I/O error occurs.*

- virtual void **close** ()

  *Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.*
  The default implementation of this method does nothing.
  Exceptions:

  IOException *(p. **1774**) if an I/O error occurs while closing the **InputStream** (p. 1694).*

- virtual long long **skip** (long long num)

  Skips over and discards n bytes of data from this input stream.
  *The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned. The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.*
  Parameters:

  num *The number of bytes to skip.*
  Returns:

  total bytes skipped

Exceptions:

IOException *(p. **1774**) if an I/O error occurs.*
UnsupportedOperationException *if the concrete stream class does not support skipping bytes.*

- virtual void **mark** (int readLimit)

  Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.
  If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.
  Calling mark on a closed stream instance should have no effect.
  The default implementation of this method does nothing.
  Parameters:

  readLimit *The max bytes read before marked position is invalid.*

- virtual void **reset** ()

  Repositions this stream to the position at the time the mark method was last called on this input stream.
  If the method markSupported returns true, then: ∗ If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an ***IOException*** *(p. 1774) might be thrown. ∗ If such an* ***IOException*** *(p. 1774) is not thrown, then the stream is reset to a state such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.*
  If the method markSupported returns false, then: ∗ The call to reset may throw an ***IOException*** *(p. 1774). ∗ If an* ***IOException*** *(p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.*
  The default implementation of this method throws an ***IOException*** *(p. 1774).*
  Exceptions:

  IOException *(p. **1774**) if an I/O error occurs.*

- virtual bool **markSupported** () const

  Determines if this input stream supports the mark and reset methods.
  Whether or not mark and reset are supported is an invariant property of a particular input stream instance.
  The default implementation of this method returns false.
  Returns:

  true if this stream instance supports marks

Protected Member Functions

- virtual int **doReadByte** ()
- virtual int **doReadArrayBounded** (unsigned char ∗buffer, int size, int offset, int length)

6.99.1 Detailed Description

A wrapper around another input stream that performs a buffered read, where it reads more data than it needs in order to reduce the number of **io** (p. 109) operations on the input stream.

6.99.2 Constructor & Destructor Documentation

6.99.2.1 decaf::io::BufferedInputStream::BufferedInputStream (InputStream * *stream*, bool *own* = `false`)

Constructor.

Parameters:

stream The target input stream to buffer.

own Indicates if we own the stream object, defaults to false.

6.99.2.2 decaf::io::BufferedInputStream::BufferedInputStream (InputStream * *stream*, int *bufferSize*, bool *own* = `false`)

Constructor.

Parameters:

stream The target input stream to buffer.

bufferSize The size in bytes to allocate for the **internal** (p. 96) buffer.

own Indicates if we own the stream object, defaults to false.

Exceptions:

IllegalArgumentException is the size is zero or negative.

6.99.2.3 virtual decaf::io::BufferedInputStream::~BufferedInputStream () `[virtual]`

6.99.3 Member Function Documentation

6.99.3.1 virtual int decaf::io::BufferedInputStream::available () const `[virtual]`

Indicates the number of bytes available.

The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented from **decaf::io::FilterInputStream** (p. 1510).

6.99.3.2 virtual void decaf::io::BufferedInputStream::close () [virtual]

Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.

The default implementation of this method does nothing.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs while closing the **InputStream** (p. 1694).

Reimplemented from **decaf::io::FilterInputStream** (p. 1510).

6.99.3.3 virtual int decaf::io::BufferedInputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.99.3.4 virtual int decaf::io::BufferedInputStream::doReadByte () [protected, virtual]

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.99.3.5 virtual void decaf::io::BufferedInputStream::mark (int *readLimit*) [virtual]

Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.

If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.

Calling mark on a closed stream instance should have no effect.

The default implementation of this method does nothing.

Parameters:

readLimit The max bytes read before marked position is invalid.

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.99.3.6 virtual bool decaf::io::BufferedInputStream::markSupported () const [inline, virtual]

Determines if this input stream supports the mark and reset methods.

Whether or not mark and reset are supported is an invariant property of a particular input stream instance.

The default implementation of this method returns false.

Returns:

true if this stream instance supports marks

Reimplemented from **decaf::io::FilterInputStream** (p. 1512).

6.99.3.7 virtual void decaf::io::BufferedInputStream::reset () [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

If the method markSupported returns true, then: * If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an **IOException** (p. 1774) might be thrown. * If such an **IOException** (p. 1774) is not thrown, then the stream is reset to a state such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.

If the method markSupported returns false, then: * The call to reset may throw an **IOException** (p. 1774). * If an **IOException** (p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.

The default implementation of this method throws an **IOException** (p. 1774).

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented from **decaf::io::FilterInputStream** (p. 1512).

6.99.3.8 virtual long long decaf::io::BufferedInputStream::skip (long long *num*) [virtual]

Skips over and discards n bytes of data from this input stream.

The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

Reimplemented from **decaf::io::FilterInputStream** (p. 1513).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**BufferedInputStream.h**

6.100 decaf::io::BufferedOutputStream Class Reference

Wrapper around another output stream that buffers output before writing to the target output stream.

`#include <src/main/decaf/io/BufferedOutputStream.h>`Inheritance diagram for decaf::io::BufferedOutputStream:

Public Member Functions

- **BufferedOutputStream** (**OutputStream** *stream, bool **own**=false)

  Constructor.

- **BufferedOutputStream** (**OutputStream** *stream, int bufferSize, bool **own**=false)

  Constructor.

- virtual ~**BufferedOutputStream** ()

- virtual void **flush** ()

  inheritDoc}

- virtual void **doWriteByte** (unsigned char c)
- virtual void **doWriteArray** (const unsigned char *buffer, int size)
- virtual void **doWriteArrayBounded** (const unsigned char *buffer, int size, int offset, int length)

6.100.1 Detailed Description

Wrapper around another output stream that buffers output before writing to the target output stream.

6.100.2 Constructor & Destructor Documentation

6.100.2.1 decaf::io::BufferedOutputStream::BufferedOutputStream (OutputStream * *stream*, bool *own* = `false`)

Constructor.

Parameters:

stream The target output stream.

own Indicates if this class owns the stream pointer.

6.100.2.2 decaf::io::BufferedOutputStream::BufferedOutputStream (OutputStream * *stream*, int *bufferSize*, bool *own* = false)

Constructor.

Parameters:

stream The target output stream.

bufferSize The size for the **internal** (p. 96) buffer.

own Indicates if this class owns the stream pointer.

Exceptions:

IllegalArgumentException if the bufferSize given is negative.

6.100.2.3 virtual decaf::io::BufferedOutputStream::~BufferedOutputStream () [virtual]

6.100.3 Member Function Documentation

6.100.3.1 virtual void decaf::io::BufferedOutputStream::doWriteArray (const unsigned char * *buffer*, int *size*) [protected, virtual]

Reimplemented from **decaf::io::FilterOutputStream** (p. 1515).

6.100.3.2 virtual void decaf::io::BufferedOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

6.100.3.3 virtual void decaf::io::BufferedOutputStream::doWriteByte (unsigned char *c*) [protected, virtual]

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

6.100.3.4 virtual void decaf::io::BufferedOutputStream::flush () [virtual]

inheritDoc}

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**BufferedOutputStream.h**

6.101 decaf::internal::nio::BufferFactory Class Reference

Factory class used by static methods in the **decaf::nio** (p. 119) package to create the various default version of the NIO interfaces.

`#include <src/main/decaf/internal/nio/BufferFactory.h>`

Public Member Functions

- virtual ~**BufferFactory** ()

Static Public Member Functions

- static **decaf::nio::ByteBuffer** * **createByteBuffer** (int capacity)

  Allocates a new byte buffer whose position will be zero its limit will be its capacity and its mark is not set.

- static **decaf::nio::ByteBuffer** * **createByteBuffer** (unsigned char *buffer, int size, int offset, int length)

  Wraps the passed buffer with a new ByteBuffer.

- static **decaf::nio::ByteBuffer** * **createByteBuffer** (std::vector< unsigned char > &buffer)

  Wraps the passed STL Byte Vector in a ByteBuffer.

- static **decaf::nio::CharBuffer** * **createCharBuffer** (int capacity)

  Allocates a new char buffer whose position will be zero its limit will be its capacity and its mark is not set.

- static **decaf::nio::CharBuffer** * **createCharBuffer** (char *buffer, int size, int offset, int length)

  Wraps the passed buffer with a new CharBuffer.

- static **decaf::nio::CharBuffer** * **createCharBuffer** (std::vector< char > &buffer)

  Wraps the passed STL Byte Vector in a CharBuffer.

- static **decaf::nio::DoubleBuffer** * **createDoubleBuffer** (int capacity)

  Allocates a new double buffer whose position will be zero its limit will be its capacity and its mark is not set.

- static **decaf::nio::DoubleBuffer** * **createDoubleBuffer** (double *buffer, int size, int offset, int length)

  Wraps the passed buffer with a new DoubleBuffer.

- static **decaf::nio::DoubleBuffer** * **createDoubleBuffer** (std::vector< double > &buffer)

  Wraps the passed STL Double Vector in a DoubleBuffer.

- static **decaf::nio::FloatBuffer** * **createFloatBuffer** (int capacity)

  Allocates a new float buffer whose position will be zero its limit will be its capacity and its mark is not set.

- static **decaf::nio::FloatBuffer** * **createFloatBuffer** (float *buffer, int size, int offset, int length)

  Wraps the passed buffer with a new FloatBuffer.

- static **decaf::nio::FloatBuffer** * **createFloatBuffer** (std::vector< float > &buffer)

  Wraps the passed STL Float Vector in a FloatBuffer.

- static **decaf::nio::LongBuffer** * **createLongBuffer** (int capacity)

  Allocates a new long long buffer whose position will be zero its limit will be its capacity and its mark is not set.

- static **decaf::nio::LongBuffer** * **createLongBuffer** (long long *buffer, int size, int offset, int length)

  Wraps the passed buffer with a new LongBuffer.

- static **decaf::nio::LongBuffer** * **createLongBuffer** (std::vector< long long > &buffer)

  Wraps the passed STL Long Vector in a LongBuffer.

- static **decaf::nio::IntBuffer** * **createIntBuffer** (int capacity)

  Allocates a new int buffer whose position will be zero its limit will be its capacity and its mark is not set.

- static **decaf::nio::IntBuffer** * **createIntBuffer** (int *buffer, int size, int offset, int length)

  Wraps the passed buffer with a new IntBuffer.

- static **decaf::nio::IntBuffer** * **createIntBuffer** (std::vector< int > &buffer)

  Wraps the passed STL int Vector in a IntBuffer.

- static **decaf::nio::ShortBuffer** * **createShortBuffer** (int capacity)

  Allocates a new short buffer whose position will be zero its limit will be its capacity and its mark is not set.

- static **decaf::nio::ShortBuffer** * **createShortBuffer** (short *buffer, int size, int offset, int length)

  Wraps the passed buffer with a new ShortBuffer.

- static **decaf::nio::ShortBuffer** * **createShortBuffer** (std::vector< short > &buffer)

  Wraps the passed STL Short Vector in a ShortBuffer.

6.101.1 Detailed Description

Factory class used by static methods in the **decaf::nio** (p. 119) package to create the various default version of the NIO interfaces.

Since:

1.0

6.101.2 Constructor & Destructor Documentation

6.101.2.1 virtual decaf::internal::nio::BufferFactory::~BufferFactory () [inline, virtual]

6.101.3 Member Function Documentation

6.101.3.1 static decaf::nio::ByteBuffer* decaf::internal::nio::BufferFactory::createByteBuffer (std::vector< unsigned char > & *buffer*) [static]

Wraps the passed STL Byte Vector in a ByteBuffer. The new buffer will be backed by the given byte array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new ByteBuffer that is backed by buffer, caller owns.

6.101.3.2 static decaf::nio::ByteBuffer* decaf::internal::nio::BufferFactory::createByteBuffer (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new ByteBuffer. The new buffer will be backed by the given byte array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The array that will back the new buffer.

size The size of the specified buffer.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new ByteBuffer that is backed by buffer, caller owns the returned pointer.

Exceptions:

NullPointerException if the buffer given in Null.

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.3 static decaf::nio::ByteBuffer* decaf::internal::nio::BufferFactory::createByteBuffer (int *capacity*) [static]

Allocates a new byte buffer whose position will be zero its limit will be its capacity and its mark is not set.

Parameters:

capacity The **internal** (p. 96) buffer's capacity.

Returns:

a newly allocated ByteBuffer which the caller owns.

Exceptions:

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.4 static decaf::nio::CharBuffer* decaf::internal::nio::BufferFactory::createCharBuffer (std::vector< char > & *buffer*) [static]

Wraps the passed STL Byte Vector in a CharBuffer. The new buffer will be backed by the given byte array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new CharBuffer that is backed by buffer, caller owns.

6.101.3.5 static decaf::nio::CharBuffer* decaf::internal::nio::BufferFactory::createCharBuffer (char * *buffer*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new CharBuffer. The new buffer will be backed by the given byte array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The array that will back the new buffer.

size The size of the specified buffer.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new CharBuffer that is backed by buffer, caller owns the returned pointer.

Exceptions:

NullPointerException if the buffer given in Null.
IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.6 static decaf::nio::CharBuffer* decaf::internal::nio::BufferFactory::createCharBuffer (int *capacity*) [static]

Allocates a new char buffer whose position will be zero its limit will be its capacity and its mark is not set.

Parameters:

capacity The **internal** (p. 96) buffer's capacity.

Returns:

a newly allocated CharBuffer which the caller owns.

Exceptions:

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.7 static decaf::nio::DoubleBuffer* decaf::internal::nio::BufferFactory::createDoubleBuffer (std::vector< double > & *buffer*) [static]

Wraps the passed STL Double Vector in a DoubleBuffer. The new buffer will be backed by the given byte array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new DoubleBuffer that is backed by buffer, caller owns.

6.101.3.8 static decaf::nio::DoubleBuffer* decaf::internal::nio::BufferFactory::createDoubleBuffer (double * *buffer*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new DoubleBuffer. The new buffer will be backed by the given byte array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The array that will back the new buffer.

size The size of the specified buffer.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new DoubleBuffer that is backed by buffer, caller owns the returned pointer.

Exceptions:

NullPointerException if the buffer given in Null.

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.9 static decaf::nio::DoubleBuffer* decaf::internal::nio::BufferFactory::createDoubleBuffer (int *capacity*) [static]

Allocates a new double buffer whose position will be zero its limit will be its capacity and its mark is not set.

Parameters:

capacity The **internal** (p. 96) buffer's capacity.

Returns:

a newly allocated DoubleBuffer which the caller owns.

Exceptions:

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.10 static decaf::nio::FloatBuffer* decaf::internal::nio::BufferFactory::createFloatBuffer (std::vector< float > & *buffer*) [static]

Wraps the passed STL Float Vector in a FloatBuffer. The new buffer will be backed by the given byte array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new FloatBuffer that is backed by buffer, caller owns.

6.101.3.11 static decaf::nio::FloatBuffer* decaf::internal::nio::BufferFactory::createFloatBuffer (float * *buffer*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new FloatBuffer. The new buffer will be backed by the given byte array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The array that will back the new buffer.

size The size of the specified buffer.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new FloatBuffer that is backed by buffer, caller owns the returned pointer.

Exceptions:

NullPointerException if the buffer given in Null.

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.12 static decaf::nio::FloatBuffer* decaf::internal::nio::BufferFactory::createFloatBuffer (int *capacity*) [static]

Allocates a new float buffer whose position will be zero its limit will be its capacity and its mark is not set.

Parameters:

capacity The **internal** (p. 96) buffer's capacity.

Returns:

a newly allocated FloatBuffer which the caller owns.

Exceptions:

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.13 static decaf::nio::IntBuffer* decaf::internal::nio::BufferFactory::createIntBuffer (std::vector< int > & *buffer*) [static]

Wraps the passed STL int Vector in a IntBuffer. The new buffer will be backed by the given byte array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new IntBuffer that is backed by buffer, caller owns.

6.101.3.14 static decaf::nio::IntBuffer* decaf::internal::nio::BufferFactory::createIntBuffer (int * *buffer*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new IntBuffer. The new buffer will be backed by the given byte array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The array that will back the new buffer.

size The size of the specified buffer.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new IntBuffer that is backed by buffer, caller owns the returned pointer.

Exceptions:

NullPointerException if the buffer given in Null.

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.15 static decaf::nio::IntBuffer* decaf::internal::nio::BufferFactory::createIntBuffer (int *capacity*) [static]

Allocates a new int buffer whose position will be zero its limit will be its capacity and its mark is not set.

Parameters:

capacity The **internal** (p. 96) buffer's capacity.

Returns:

a newly allocated IntBuffer which the caller owns.

Exceptions:

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.16 static decaf::nio::LongBuffer* decaf::internal::nio::BufferFactory::createLongBuffer (std::vector< long long > & *buffer*) [static]

Wraps the passed STL Long Vector in a LongBuffer. The new buffer will be backed by the given byte array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new LongBuffer that is backed by buffer, caller owns.

6.101.3.17 static decaf::nio::LongBuffer* decaf::internal::nio::BufferFactory::createLongBuffer (long long * *buffer*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new LongBuffer. The new buffer will be backed by the given byte array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The array that will back the new buffer.

size The size of the specified buffer.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new LongBuffer that is backed by buffer, caller owns the returned pointer.

Exceptions:

NullPointerException if the buffer given in Null.

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.18 static decaf::nio::LongBuffer* decaf::internal::nio::BufferFactory::createLongBuffer (int *capacity*) [static]

Allocates a new long long buffer whose position will be zero its limit will be its capacity and its mark is not set.

Parameters:

capacity - the **internal** (p. 96) buffer's capacity.

Returns:

a newly allocated DoubleBuffer which the caller owns.

Exceptions:

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.19 static decaf::nio::ShortBuffer* decaf::internal::nio::BufferFactory::createShortBuffer (std::vector< short > & *buffer*) [static]

Wraps the passed STL Short Vector in a ShortBuffer. The new buffer will be backed by the given byte array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new DoubleBuffer that is backed by buffer, caller owns.

6.101.3.20 static decaf::nio::ShortBuffer* decaf::internal::nio::BufferFactory::createShortBuffer (short * *buffer*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new ShortBuffer. The new buffer will be backed by the given byte array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The array that will back the new buffer.

size The size of the specified buffer.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new ShortBuffer that is backed by buffer, caller owns the returned pointer.

Exceptions:

NullPointerException if the buffer given in Null.

IndexOutOfBoundsException if the capacity specified is negative.

6.101.3.21 static decaf::nio::ShortBuffer* decaf::internal::nio::BufferFactory::createShortBuffer (int *capacity*) [static]

Allocates a new short buffer whose position will be zero its limit will be its capacity and its mark is not set.

Parameters:

capacity The **internal** (p. 96) buffer's capacity.

Returns:

a newly allocated ShortBuffer which the caller owns.

Exceptions:

IndexOutOfBoundsException if the capacity specified is negative.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/nio/**BufferFactory.h**

6.102 decaf::nio::BufferOverflowException Class Reference

`#include <src/main/decaf/nio/BufferOverflowException.h>`Inheritance diagram for decaf::nio::BufferOverflowException:

Public Member Functions

- **BufferOverflowException** ()

  Default Constructor.

- **BufferOverflowException** (const **lang::Exception** &ex)

  Copy Constructor.

- **BufferOverflowException** (const **BufferOverflowException** &ex)

  Copy Constructor.

- **BufferOverflowException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **BufferOverflowException** (const std::exception *cause)

  Constructor.

- **BufferOverflowException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor.

- virtual **BufferOverflowException** * **clone** () const

  Clones this exception.

- virtual ~**BufferOverflowException** () throw ()

6.102.1 Constructor & Destructor Documentation

6.102.1.1 decaf::nio::BufferOverflowException::BufferOverflowException ()

Default Constructor.

6.102.1.2 decaf::nio::BufferOverflowException::BufferOverflowException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.102.1.3 decaf::nio::BufferOverflowException::BufferOverflowException (const BufferOverflowException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.102.1.4 decaf::nio::BufferOverflowException::BufferOverflowException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.102.1.5 decaf::nio::BufferOverflowException::BufferOverflowException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.102.1.6 decaf::nio::BufferOverflowException::BufferOverflowException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.102.1.7 virtual decaf::nio::BufferOverflowException::~BufferOverflowException () throw () [virtual]

6.102.2 Member Function Documentation

6.102.2.1 virtual BufferOverflowException* decaf::nio::BufferOverflowException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**BufferOverflowException.h**

6.103 decaf::nio::BufferUnderflowException Class Reference

`#include <src/main/decaf/nio/BufferUnderflowException.h>`Inheritance diagram for decaf::nio::BufferUnderflowException:

Public Member Functions

- **BufferUnderflowException** ()

  Default Constructor.

- **BufferUnderflowException** (const **lang::Exception** &ex)

  Copy Constructor.

- **BufferUnderflowException** (const **BufferUnderflowException** &ex)

  Copy Constructor.

- **BufferUnderflowException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **BufferUnderflowException** (const std::exception *cause)

  Constructor.

- **BufferUnderflowException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor.

- virtual **BufferUnderflowException** * **clone** () const

  Clones this exception.

- virtual ~**BufferUnderflowException** () throw ()

6.103.1 Constructor & Destructor Documentation

6.103.1.1 decaf::nio::BufferUnderflowException::BufferUnderflowException ()

Default Constructor.

6.103.1.2 decaf::nio::BufferUnderflowException::BufferUnderflowException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.103.1.3 decaf::nio::BufferUnderflowException::BufferUnderflowException (const BufferUnderflowException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.103.1.4 decaf::nio::BufferUnderflowException::BufferUnderflowException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.103.1.5 decaf::nio::BufferUnderflowException::BufferUnderflowException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.103.1.6 decaf::nio::BufferUnderflowException::BufferUnderflowException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.103.1.7 virtual decaf::nio::BufferUnderflowException::~BufferUnderflowException () throw () [virtual]

6.103.2 Member Function Documentation

6.103.2.1 virtual BufferUnderflowException* decaf::nio::BufferUnderflowException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**BufferUnderflowException.h**

6.104 decaf::lang::Byte Class Reference

`#include <src/main/decaf/lang/Byte.h>`Inheritance diagram for decaf::lang::Byte:

Public Member Functions

- **Byte** (unsigned char value)
- **Byte** (const std::string &value)

  *Creates a new **Byte** (p. 760) instance from the given string.*

- virtual ~**Byte** ()
- virtual int **compareTo** (const **Byte** &c) const

  *Compares this **Byte** (p. 760) instance with another.*

- virtual bool **operator==** (const **Byte** &c) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const **Byte** &c) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- virtual int **compareTo** (const unsigned char &c) const

  *Compares this **Byte** (p. 760) instance with a char type.*

- virtual bool **operator==** (const unsigned char &c) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const unsigned char &c) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- bool **equals** (const **Byte** &c) const
- bool **equals** (const unsigned char &c) const
- std::string **toString** () const
- virtual double **doubleValue** () const

  Answers the double value which the receiver represents.

- virtual float **floatValue** () const

  Answers the float value which the receiver represents.

- virtual unsigned char **byteValue** () const

  Answers the byte value which the receiver represents.

- virtual short **shortValue** () const

  Answers the short value which the receiver represents.

- virtual int **intValue** () const

  Answers the int value which the receiver represents.

- virtual long long **longValue** () const

  Answers the long value which the receiver represents.

Static Public Member Functions

- static std::string **toString** (unsigned char value)
- static **Byte decode** (const std::string &value)

  *Decodes a **String** (p. 2919) into a **Byte** (p. 760).*

- static unsigned char **parseByte** (const std::string &s, int radix)

  Parses the string argument as a signed unsigned char in the radix specified by the second argument.

- static unsigned char **parseByte** (const std::string &s)

  Parses the string argument as a signed decimal unsigned char.

- static **Byte valueOf** (unsigned char value)

  *Returns a **Character** (p. 908) instance representing the specified char value.*

- static **Byte valueOf** (const std::string &value)

  *Returns a **Byte** (p. 760) object holding the value given by the specified std::string.*

- static **Byte valueOf** (const std::string &value, int radix)

  *Returns a **Byte** (p. 760) object holding the value extracted from the specified std::string when parsed with the radix given by the second argument.*

Static Public Attributes

- static const unsigned char **MIN_VALUE**

  The minimum value that a unsigned char can take on.

- static const unsigned char **MAX_VALUE**

  The maximum value that a unsigned char can take on.

- static const int **SIZE**

  The size of the primitive character in bits.

6.104.1 Constructor & Destructor Documentation

6.104.1.1 decaf::lang::Byte::Byte (unsigned char *value*)

Parameters:

value - the primitive value to wrap

6.104.1.2 decaf::lang::Byte::Byte (const std::string & *value*)

Creates a new **Byte** (p. 760) instance from the given string.

Parameters:

value The string to convert to an unsigned char

Exceptions:

NumberFormatException if the string is not a valid byte.

6.104.1.3 virtual decaf::lang::Byte::~Byte () [inline, virtual]

6.104.2 Member Function Documentation

6.104.2.1 virtual unsigned char decaf::lang::Byte::byteValue () const [inline, virtual]

Answers the byte value which the receiver represents.

Returns:

byte the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2256).

6.104.2.2 virtual int decaf::lang::Byte::compareTo (const unsigned char & *c*) const [inline, virtual]

Compares this **Byte** (p. 760) instance with a char type.

Parameters:

c - the char instance to be compared

Returns:

zero if this object represents the same char value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object repesents a value less than the passed in value.

Implements **decaf::lang::Comparable< unsigned char >** (p. 1031).

6.104.2.3 virtual int decaf::lang::Byte::compareTo (const Byte & *c*) const [inline, virtual]

Compares this **Byte** (p. 760) instance with another.

Parameters:

c - the **Byte** (p. 760) instance to be compared

Returns:

zero if this object represents the same char value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object repesents a value less than the passed in value.

6.104.2.4 static Byte decaf::lang::Byte::decode (const std::string & *value*) [static]

Decodes a **String** (p. 2919) into a **Byte** (p. 760). Accepts decimal, hexadecimal, and octal numbers given by the following grammar:

The sequence of characters following an (optional) negative sign and/or radix specifier ("0x", "0X", "#", or leading zero) is parsed as by the **Byte::parseByte** (p. 766) method with the indicated radix (10, 16, or 8). This sequence of characters must represent a positive value or a NumberFormatException will be thrown. The result is negated if first character of the specified **String** (p. 2919) is the minus sign. No whitespace characters are permitted in the string.

Parameters:

value - The string to decode

Returns:

a **Byte** (p. 760) object containing the decoded value

Exceptions:

NumberFomatException if the string is not formatted correctly.

6.104.2.5 virtual double decaf::lang::Byte::doubleValue () const [inline, virtual]

Answers the double value which the receiver represents.

Returns:

double the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.104.2.6 bool decaf::lang::Byte::equals (const unsigned char & *c*) const [inline, virtual]

Returns:

true if the two Bytes have the same value.

Implements **decaf::lang::Comparable< unsigned char >** (p. 1032).

6.104.2.7 bool decaf::lang::Byte::equals (const Byte & *c*) const [inline]

Returns:

true if the two **Byte** (p. 760) Objects have the same value.

6.104.2.8 virtual float decaf::lang::Byte::floatValue () const [inline, virtual]

Answers the float value which the receiver represents.

Returns:

float the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.104.2.9 virtual int decaf::lang::Byte::intValue () const [inline, virtual]

Answers the int value which the receiver represents.

Returns:

int the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.104.2.10 virtual long long decaf::lang::Byte::longValue () const [inline, virtual]

Answers the long value which the receiver represents.

Returns:

long long the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.104.2.11 virtual bool decaf::lang::Byte::operator< (const unsigned char & *c*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

c - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< unsigned char >** (p. 1032).

6.104.2.12 virtual bool decaf::lang::Byte::operator< (const Byte & *c*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

c - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.104.2.13 virtual bool decaf::lang::Byte::operator== (const unsigned char & *c*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

c - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< unsigned char >** (p. 1032).

6.104.2.14 virtual bool decaf::lang::Byte::operator== (const Byte & *c*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

c - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.104.2.15 static unsigned char decaf::lang::Byte::parseByte (const std::string & *s*) [static]

Parses the string argument as a signed decimal unsigned char. The characters in the string must all be decimal digits, except that the first character may be an ASCII minus sign '-' to indicate a negative value. The resulting unsigned char value is returned, exactly as if the argument and the radix 10 were given as arguments to the parseByte(const std::string, int) method.

Parameters:

s - **String** (p. 2919) to convert to a unsigned char

Returns:

the converted unsigned char value

Exceptions:

NumberFormatException if the string is not a unsigned char.

6.104.2.16 static unsigned char decaf::lang::Byte::parseByte (const std::string & *s*, int *radix*) [static]

Parses the string argument as a signed unsigned char in the radix specified by the second argument. The characters in the string must all be digits, of the specified radix (as determined by whether **Character.digit(char, int)** (p. 911) returns a nonnegative value) except that the first character may be an ASCII minus sign '-' to indicate a negative value. The resulting byte value is returned.

An exception of type NumberFormatException is thrown if any of the following situations occurs: * The first argument is null or is a string of length zero. * The radix is either smaller than **Character.MIN_RADIX** (p. 915) or larger than **Character::MAX_RADIX** (p. 915). * Any character of the string is not a digit of the specified radix, except that the first character may be a minus sign '-' provided that the string is longer than length 1. * The value represented by the string is not a value of type unsigned char.

Parameters:

s - the **String** (p. 2919) containing the unsigned char to be parsed

radix - the radix to be used while parsing s

Returns:

the unsigned char represented by the string argument in the specified radix.

Exceptions:

NumberFormatException - If **String** (p. 2919) does not contain a parsable unsigned char.

6.104.2.17 virtual short decaf::lang::Byte::shortValue () const [inline, virtual]

Answers the short value which the receiver represents.

Returns:

short the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2258).

6.104.2.18 static std::string decaf::lang::Byte::toString (unsigned char *value*) [static]

Returns:

a string representing the primitive value as Base 10

6.104.2.19 std::string decaf::lang::Byte::toString () const

Returns:

this **Byte** (p. 760) Object as a **String** (p. 2919) Representation

6.104.2.20 static Byte decaf::lang::Byte::valueOf (const std::string & *value*, int *radix*) [static]

Returns a **Byte** (p. 760) object holding the value extracted from the specified std::string when parsed with the radix given by the second argument. The first argument is interpreted as representing a signed unsigned char in the radix specified by the second argument, exactly as if the argument were given to the parseByte(std::string, int) method. The result is a **Byte** (p. 760) object that represents the unsigned char value specified by the string.

Parameters:

value - std::string to parse as base (radix)

radix - base of the string to parse.

Returns:

new **Byte** (p. 760) Object wrapping the primitive

Exceptions:

NumberFormatException if the string is not a valid unsigned char.

6.104.2.21 static Byte decaf::lang::Byte::valueOf (const std::string & *value*) [static]

Returns a **Byte** (p. 760) object holding the value given by the specified std::string. The argument is interpreted as representing a signed decimal unsigned char, exactly as if the argument were given to the parseByte(std::string) method. The result is a **Byte** (p. 760) object that represents the unsigned char value specified by the string.

Parameters:

value - std::string to parse as base 10

Returns:

new **Byte** (p. 760) Object wrapping the primitive

Exceptions:

NumberFormatException if the string is not a decimal unsigned char.

6.104.2.22 static Byte decaf::lang::Byte::valueOf (unsigned char *value*) [inline, static]

Returns a **Character** (p. 908) instance representing the specified char value.

Parameters:

value - the primitive char to wrap.

Returns:

a new **Character** (p. 908) instance that wraps this value.

6.104.3 Field Documentation

6.104.3.1 const unsigned char decaf::lang::Byte::MAX_VALUE [static]

The maximum value that a unsigned char can take on.

6.104.3.2 const unsigned char decaf::lang::Byte::MIN_VALUE [static]

The minimum value that a unsigned char can take on.

6.104.3.3 const int decaf::lang::Byte::SIZE [static]

The size of the primitive character in bits.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Byte.h**

6.105 decaf::internal::util::ByteArrayAdapter Class Reference

This class adapts primitive type arrays to a base byte array so that the classes can inter-operate on the same base byte array without copying data.

`#include <src/main/decaf/internal/util/ByteArrayAdapter.h>`

Data Structures

- union **Array**

Public Member Functions

- **ByteArrayAdapter** (int size)

  Creates a byte array object that is allocated internally and is then owned and deleted when this object is deleted.

- **ByteArrayAdapter** (unsigned char *array, int size, bool own=false)

  Creates a byte array object that wraps the given array.

- **ByteArrayAdapter** (char *array, int size, bool own=false)

  Creates a byte array object that wraps the given array.

- **ByteArrayAdapter** (double *array, int size, bool own=false)

  Creates a byte array object that wraps the given array.

- **ByteArrayAdapter** (float *array, int size, bool own=false)

  Creates a byte array object that wraps the given array.

- **ByteArrayAdapter** (long long *array, int size, bool own=false)

  Creates a byte array object that wraps the given array.

- **ByteArrayAdapter** (int *array, int size, bool own=false)

  Creates a byte array object that wraps the given array.

- **ByteArrayAdapter** (short *array, int size, bool own=false)

  Creates a byte array object that wraps the given array.

- virtual ~**ByteArrayAdapter** ()
- virtual int **getCapacity** () const

  Gets the size of the underlying array.

- virtual int **getCharCapacity** () const

  Gets the size of the underlying array as if it contains chars.

- virtual int **getDoubleCapacity** () const

  Gets the size of the underlying array as if it contains doubles.

- virtual int **getFloatCapacity** () const

Gets the size of the underlying array as if it contains doubles.

- virtual int **getLongCapacity** () const

  Gets the size of the underlying array as if it contains doubles.

- virtual int **getIntCapacity** () const

  Gets the size of the underlying array as if it contains ints.

- virtual int **getShortCapacity** () const

  Gets the size of the underlying array as if it contains shorts.

- virtual unsigned char * **getByteArray** ()

  Gets the pointer to the array we are wrapping.

- virtual char * **getCharArray** ()

  Gets the pointer to the array we are wrapping.

- virtual short * **getShortArray** ()

  Gets the pointer to the array we are wrapping.

- virtual int * **getIntArray** ()

  Gets the pointer to the array we are wrapping.

- virtual long long * **getLongArray** ()

  Gets the pointer to the array we are wrapping.

- virtual double * **getDoubleArray** ()

  Gets the pointer to the array we are wrapping.

- virtual float * **getFloatArray** ()

  Gets the pointer to the array we are wrapping.

- virtual void **read** (unsigned char *buffer, int size, int offset, int length) const

  Reads from the Byte array starting at the specified offset and reading the specified length.

- virtual void **write** (unsigned char *buffer, int size, int offset, int length)

  *Writes from the Byte array given, starting at the specified offset and writing the specified amount of data into this objects **internal** (p. 96) array.*

- virtual void **resize** (int size)

  Resizes the underlying array to the new given size, preserving all the Data that was previously in the array, unless the resize is smaller than the current size in which case only the data that will fit into the new array is preserved.

- virtual void **clear** ()

  Clear all data from that Array, setting the underlying bytes to zero.

- unsigned char & **operator[]** (int index)

  *Allows the **ByteArrayAdapter** (p. 769) to be indexed as a standard array.*

- const unsigned char & **operator[]** (int index) const
- virtual unsigned char **get** (int index) const

  Absolute get method.

- virtual char **getChar** (int index) const

  Reads one byte at the given index and returns it.

- virtual double **getDouble** (int index) const

  Reads eight bytes at the given index and returns it.

- virtual double **getDoubleAt** (int index) const

  Reads eight bytes at the given byte index and returns it.

- virtual float **getFloat** (int index) const

  Reads four bytes at the given index and returns it.

- virtual float **getFloatAt** (int index) const

  Reads four bytes at the given byte index and returns it.

- virtual long long **getLong** (int index) const

  Reads eight bytes at the given index and returns it.

- virtual long long **getLongAt** (int index) const

  Reads eight bytes at the given byte index and returns it.

- virtual int **getInt** (int index) const

  Reads four bytes at the given index and returns it.

- virtual int **getIntAt** (int index) const

  Reads four bytes at the given byte index and returns it.

- virtual short **getShort** (int index) const

  Reads two bytes at the given index and returns it.

- virtual short **getShortAt** (int index) const

  Reads two bytes at the given byte index and returns it.

- virtual **ByteArrayAdapter** & **put** (int index, unsigned char value)

  Writes the given byte into this buffer at the given index.

- virtual **ByteArrayAdapter** & **putChar** (int index, char value)

  Writes one byte containing the given value, into this buffer at the given index.

- virtual **ByteArrayAdapter** & **putDouble** (int index, double value)

  Writes eight bytes containing the given value, into this buffer at the given index.

- virtual **ByteArrayAdapter** & **putDoubleAt** (int index, double value)

  Writes eight bytes containing the given value, into this buffer at the given byte index.

- virtual **ByteArrayAdapter** & **putFloat** (int index, float value)

Writes four bytes containing the given value, into this buffer at the given index.

- virtual **ByteArrayAdapter** & **putFloatAt** (int index, float value)
  Writes four bytes containing the given value, into this buffer at the given byte index.
- virtual **ByteArrayAdapter** & **putLong** (int index, long long value)
  Writes eight bytes containing the given value, into this buffer at the given index.
- virtual **ByteArrayAdapter** & **putLongAt** (int index, long long value)
  Writes eight bytes containing the given value, into this buffer at the given byte index.
- virtual **ByteArrayAdapter** & **putInt** (int index, int value)
  Writes four bytes containing the given value, into this buffer at the given index.
- virtual **ByteArrayAdapter** & **putIntAt** (int index, int value)
  Writes four bytes containing the given value, into this buffer at the given byte index.
- virtual **ByteArrayAdapter** & **putShort** (int index, short value)
  Writes two bytes containing the given value, into this buffer at the given index.
- virtual **ByteArrayAdapter** & **putShortAt** (int index, short value)
  Writes two bytes containing the given value, into this buffer at the given byte index.

6.105.1 Detailed Description

This class adapts primitive type arrays to a base byte array so that the classes can inter-operate on the same base byte array without copying data. All the array types are mapped down to a byte array and methods are supplied for accessing the data in any of the primitive type forms.

Methods in this class that do not return a specific value return a reference to this object so that calls can be chained.

Since:

1.0

6.105.2 Constructor & Destructor Documentation

6.105.2.1 decaf::internal::util::ByteArrayAdapter::ByteArrayAdapter (int *size*)

Creates a byte array object that is allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

size The size of the array, this is the limit we read and write to.

Exceptions:

IllegalArgumentException if size is negative.

6.105.2.2 decaf::internal::util::ByteArrayAdapter::ByteArrayAdapter (unsigned char * *array*, int *size*, bool *own* = `false`)

Creates a byte array object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The physical array to wrap.

size The size of the array, this is the limit we read and write to.

own Indicates if this class is now the owner of the pointer.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if the size is negative.

6.105.2.3 decaf::internal::util::ByteArrayAdapter::ByteArrayAdapter (char * *array*, int *size*, bool *own* = `false`)

Creates a byte array object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The physical array to wrap.

size The size of the array, this is the limit we read and write to.

own Indicates if this class is now the owner of the pointer.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if the size is negative.

6.105.2.4 decaf::internal::util::ByteArrayAdapter::ByteArrayAdapter (double * *array*, int *size*, bool *own* = `false`)

Creates a byte array object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The physical array to wrap.

size The size of the array, this is the limit we read and write to.

own Indicates if this class is now the owner of the pointer.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if the size is negative.

6.105.2.5 decaf::internal::util::ByteArrayAdapter::ByteArrayAdapter (float * *array*, int *size*, bool *own* = `false`)

Creates a byte array object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The physical array to wrap.

size The size of the array, this is the limit we read and write to.

own Indicates if this class is now the owner of the pointer.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if the size is negative.

6.105.2.6 decaf::internal::util::ByteArrayAdapter::ByteArrayAdapter (long long * *array*, int *size*, bool *own* = `false`)

Creates a byte array object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The physical array to wrap.

size The size of the array, this is the limit we read and write to.

own Indicates if this class is now the owner of the pointer.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if the size is negative.

6.105.2.7 decaf::internal::util::ByteArrayAdapter::ByteArrayAdapter (int * *array*, int *size*, bool *own* = `false`)

Creates a byte array object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The physical array to wrap.

size The size of the array, this is the limit we read and write to.

own Indicates if this class is now the owner of the pointer.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if the size is negative.

6.105.2.8 decaf::internal::util::ByteArrayAdapter::ByteArrayAdapter (short * *array*, int *size*, bool *own* = `false`)

Creates a byte array object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The physical array to wrap.

size The size of the array, this is the limit we read and write to.

own Indicates if this class is now the owner of the pointer.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if the size is negative.

6.105.2.9 virtual decaf::internal::util::ByteArrayAdapter::~ByteArrayAdapter () `[virtual]`

6.105.3 Member Function Documentation

6.105.3.1 virtual void decaf::internal::util::ByteArrayAdapter::clear () `[virtual]`

Clear all data from that Array, setting the underlying bytes to zero.

6.105.3.2 virtual unsigned char decaf::internal::util::ByteArrayAdapter::get (int *index*) const `[virtual]`

Absolute get method. Reads the byte at the given index.

Parameters:

index The index in the Buffer where the byte is to be read.

Returns:

the byte that is located at the given index.

Exceptions:

IndexOutOfBoundsException If index is not smaller than the buffer's limit or is negative.

6.105.3.3 virtual unsigned char* decaf::internal::util::ByteArrayAdapter::getByteArray () `[inline, virtual]`

Gets the pointer to the array we are wrapping. Changes to the data in this array are reflected by all **ByteArrayAdapter** (p. 769) objects that point to this array.

Returns:

an unsigned char* pointer to the array this object wraps.

6.105.3.4 virtual int decaf::internal::util::ByteArrayAdapter::getCapacity () const [inline, virtual]

Gets the size of the underlying array.

Returns:

the size the array.

6.105.3.5 virtual char decaf::internal::util::ByteArrayAdapter::getChar (int *index*) const [virtual]

Reads one byte at the given index and returns it.

Parameters:

index The index in the Buffer where the byte is to be read.

Returns:

the byte that is located at the given index.

Exceptions:

IndexOutOfBoundsException If index is not smaller than the buffer's limit or is negative.

6.105.3.6 virtual char* decaf::internal::util::ByteArrayAdapter::getCharArray () [inline, virtual]

Gets the pointer to the array we are wrapping. Changes to the data in this array are reflected by all **ByteArrayAdapter** (p. 769) objects that point to this array.

Returns:

an char* pointer to the array this object wraps.

6.105.3.7 virtual int decaf::internal::util::ByteArrayAdapter::getCharCapacity () const [inline, virtual]

Gets the size of the underlying array as if it contains chars.

Returns:

the size the array.

6.105.3.8 virtual double decaf::internal::util::ByteArrayAdapter::getDouble (int *index*) const [virtual]

Reads eight bytes at the given index and returns it. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The index in the Buffer where the bytes are to be read.

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.9 virtual double* decaf::internal::util::ByteArrayAdapter::getDoubleArray () [inline, virtual]

Gets the pointer to the array we are wrapping. Changes to the data in this array are reflected by all **ByteArrayAdapter** (p. 769) objects that point to this array.

Returns:

an double* pointer to the array this object wraps.

6.105.3.10 virtual double decaf::internal::util::ByteArrayAdapter::getDoubleAt (int *index*) const [virtual]

Reads eight bytes at the given byte index and returns it.

Parameters:

index The index in the Buffer where the bytes are to be read

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.11 virtual int decaf::internal::util::ByteArrayAdapter::getDoubleCapacity () const [inline, virtual]

Gets the size of the underlying array as if it contains doubles.

Returns:

the size the array.

6.105.3.12 virtual float decaf::internal::util::ByteArrayAdapter::getFloat (int *index*) const [virtual]

Reads four bytes at the given index and returns it. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The index in the Buffer where the bytes are to be read.

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.13 virtual float* decaf::internal::util::ByteArrayAdapter::getFloatArray () [inline, virtual]

Gets the pointer to the array we are wrapping. Changes to the data in this array are reflected by all **ByteArrayAdapter** (p. 769) objects that point to this array.

Returns:

an float* pointer to the array this object wraps.

6.105.3.14 virtual float decaf::internal::util::ByteArrayAdapter::getFloatAt (int *index*) const [virtual]

Reads four bytes at the given byte index and returns it.

Parameters:

index The index in the Buffer where the bytes are to be read

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.15 virtual int decaf::internal::util::ByteArrayAdapter::getFloatCapacity () const [inline, virtual]

Gets the size of the underlying array as if it contains doubles.

Returns:

the size the array.

6.105.3.16 virtual int decaf::internal::util::ByteArrayAdapter::getInt (int *index*) const [virtual]

Reads four bytes at the given index and returns it. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The index in the Buffer where the bytes are to be read.

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.17 virtual int* decaf::internal::util::ByteArrayAdapter::getIntArray () [inline, virtual]

Gets the pointer to the array we are wrapping. Changes to the data in this array are reflected by all **ByteArrayAdapter** (p. 769) objects that point to this array.

Returns:

an int* pointer to the array this object wraps.

6.105.3.18 virtual int decaf::internal::util::ByteArrayAdapter::getIntAt (int *index*) const [virtual]

Reads four bytes at the given byte index and returns it.

Parameters:

index The index in the Buffer where the bytes are to be read

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.19 virtual int decaf::internal::util::ByteArrayAdapter::getIntCapacity () const [inline, virtual]

Gets the size of the underlying array as if it contains ints.

Returns:

the size the array.

6.105.3.20 virtual long long decaf::internal::util::ByteArrayAdapter::getLong (int *index*) const [virtual]

Reads eight bytes at the given index and returns it. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The index in the Buffer where the bytes are to be read.

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.21 virtual long long* decaf::internal::util::ByteArrayAdapter::getLongArray () [inline, virtual]

Gets the pointer to the array we are wrapping. Changes to the data in this array are reflected by all **ByteArrayAdapter** (p. 769) objects that point to this array.

Returns:

an long long* pointer to the array this object wraps.

6.105.3.22 virtual long long decaf::internal::util::ByteArrayAdapter::getLongAt (int *index*) const [virtual]

Reads eight bytes at the given byte index and returns it.

Parameters:

index The index in the Buffer where the bytes are to be read

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.23 virtual int decaf::internal::util::ByteArrayAdapter::getLongCapacity () const [inline, virtual]

Gets the size of the underlying array as if it contains doubles.

Returns:

the size the array.

6.105.3.24 virtual short decaf::internal::util::ByteArrayAdapter::getShort (int *index*) const [virtual]

Reads two bytes at the given index and returns it. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The index in the Buffer where the bytes are to be read.

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.25 virtual short* decaf::internal::util::ByteArrayAdapter::getShortArray () [inline, virtual]

Gets the pointer to the array we are wrapping. Changes to the data in this array are reflected by all **ByteArrayAdapter** (p. 769) objects that point to this array.

Returns:

an short* pointer to the array this object wraps.

6.105.3.26 virtual short decaf::internal::util::ByteArrayAdapter::getShortAt (int *index*) const [virtual]

Reads two bytes at the given byte index and returns it.

Parameters:

index The index in the Buffer where the bytes are to be read

Returns:

the value at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

6.105.3.27 virtual int decaf::internal::util::ByteArrayAdapter::getShortCapacity () const [inline, virtual]

Gets the size of the underlying array as if it contains shorts.

Returns:

the size the array.

6.105.3.28 const unsigned char& decaf::internal::util::ByteArrayAdapter::operator[] (int *index*) const

6.105.3.29 unsigned char& decaf::internal::util::ByteArrayAdapter::operator[] (int *index*)

Allows the **ByteArrayAdapter** (p. 769) to be indexed as a standard array. calling the non constant version allows the user to change the value at index

Parameters:

index The position in the array to access, if the value is negative or greater than the size of the underlying array an IndexOutOfBoundsException is thrown.

Exceptions:

IndexOutOfBoundsException if the preconditions of index are not met.

6.105.3.30 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::put (int *index*, unsigned char *value*) [virtual]

Writes the given byte into this buffer at the given index. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The position in the Buffer to write the data.

value The value to write to the array.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.31 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putChar (int *index*, char *value*) [virtual]

Writes one byte containing the given value, into this buffer at the given index. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The position in the Buffer to write the data.

value The value to write to the array.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.32 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putDouble (int *index*, double *value*) [virtual]

Writes eight bytes containing the given value, into this buffer at the given index. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The position in the Buffer to write the data.

value The value to write to the array.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.33 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putDoubleAt (int *index*, double *value*) [virtual]

Writes eight bytes containing the given value, into this buffer at the given byte index.

Parameters:

index The position in the Buffer to write the data.

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.34 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putFloat (int *index*, float *value*) [virtual]

Writes four bytes containing the given value, into this buffer at the given index. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The position in the Buffer to write the data.

value The value to write to the array.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.35 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putFloatAt (int *index*, float *value*) [virtual]

Writes four bytes containing the given value, into this buffer at the given byte index.

Parameters:

index The position in the Buffer to write the data.

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.36 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putInt (int *index*, int *value*) [virtual]

Writes four bytes containing the given value, into this buffer at the given index. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The position in the Buffer to write the data.

value The value to write to the array.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.37 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putIntAt (int *index*, int *value*) [virtual]

Writes four bytes containing the given value, into this buffer at the given byte index.

Parameters:

index The position in the Buffer to write the data.

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.38 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putLong (int *index*, long long *value*) [virtual]

Writes eight bytes containing the given value, into this buffer at the given index. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The position in the Buffer to write the data.

value The value to write to the array.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.39 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putLongAt (int *index*, long long *value*) [virtual]

Writes eight bytes containing the given value, into this buffer at the given byte index.

Parameters:

index The position in the Buffer to write the data.

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.40 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putShort (int *index*, short *value*) [virtual]

Writes two bytes containing the given value, into this buffer at the given index. The index is a relative to the size of the type to be read, in other words when accessing the element in the array index * sizeof(type) if the actual start index of the type to be read.

Parameters:

index The position in the Buffer to write the data.

value The value to write to the array.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.41 virtual ByteArrayAdapter& decaf::internal::util::ByteArrayAdapter::putShortAt (int *index*, short *value*) [virtual]

Writes two bytes containing the given value, into this buffer at the given byte index.

Parameters:

index The position in the Buffer to write the data.

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

6.105.3.42 virtual void decaf::internal::util::ByteArrayAdapter::read (unsigned char * *buffer*, int *size*, int *offset*, int *length*) const [virtual]

Reads from the Byte array starting at the specified offset and reading the specified length. If the length is greater than the size of this underlying byte array then an BufferUnderflowException is thrown.

Parameters:

buffer The buffer to read data from this array into.

size The size of the buffer passed.

offset The position in this array to start reading from.

length The amount of data to read from this array.

Exceptions:

IndexOutOfBoundsException if the offset + length exceeds the size.

NullPointerException if buffer is null

BufferUnderflowException if there is not enough data to read because the offset or the length is greater than the size of this array.

6.105.3.43 virtual void decaf::internal::util::ByteArrayAdapter::resize (int *size*) [virtual]

Resizes the underlying array to the new given size, preserving all the Data that was previously in the array, unless the resize is smaller than the current size in which case only the data that will fit into the new array is preserved. A **ByteArrayAdapter** (p. 769) can only be resized when it owns the underlying array, if it does not then it will throw an InvalidStateException.

Parameters:

size The new size of the array.

Exceptions:

IllegalArgumentException if the size parameter is negative.

InvalidStateException if this object does not own the buffer.

6.105.3.44 virtual void decaf::internal::util::ByteArrayAdapter::write (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Writes from the Byte array given, starting at the specified offset and writing the specified amount of data into this objects **internal** (p. 96) array. . If the length is greater than the size of this underlying byte array then an BufferOverflowException is thrown.

Parameters:

buffer The buffer to read data from this array into.

size The size of the buffer passed.

offset The position in this array to start reading from.

length The amount of data to read from this array.

Exceptions:

IndexOutOfBoundsException if the offset + length exceeds the size.

NullPointerException if buffer is null

BufferOverflowException if the amount of data to be written to this array or the offset given are larger than this array's size.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/**ByteArrayAdapter.h**

6.106 decaf::internal::nio::ByteArrayBuffer Class Reference

This class defines six categories of operations upon byte buffers:.

`#include <src/main/decaf/internal/nio/ByteArrayBuffer.h>`Inheritance diagram for decaf::internal::nio::ByteArrayBuffer:

Public Member Functions

- **ByteArrayBuffer** (int capacity, bool readOnly=false)

  *Creates a **ByteArrayBuffer** (p. 789) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

- **ByteArrayBuffer** (unsigned char *array, int size, int offset, int length, bool readOnly=false)

  *Creates a **ByteArrayBuffer** (p. 789) object that wraps the given array.*

- **ByteArrayBuffer** (const **decaf::lang::Pointer**< **ByteArrayAdapter** > &array, int offset, int length, bool readOnly=false)

  Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset.

- **ByteArrayBuffer** (const **ByteArrayBuffer** &other)

  *Create a **ByteArrayBuffer** (p. 789) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.*

- virtual ~**ByteArrayBuffer** ()
- virtual bool **isReadOnly** () const

  Tells whether or not this buffer is read-only.
  Returns:

  true if, and only if, this buffer is read-only

- virtual unsigned char * **array** ()

  Returns the byte array that backs this buffer.
  Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.
  Returns:

  The array that backs this buffer
  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this buffer is backed by an array but is read-only*
  ***UnsupportedOperationException** if this buffer is not backed by an accessible array*

- virtual int **arrayOffset** () const

  Returns the offset within this buffer's backing array of the first element of the buffer.
  *If this buffer is backed by an array then buffer position p corresponds to array index p + **arrayOffset()** (p. 832).*
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset within this buffer's array of the first element of the buffer.

Exceptions:

ReadOnlyBufferException (p. *2520*) *if this buffer is backed by an array but is read-only.*
UnsupportedOperationException *if this buffer is not backed by an accessible array.*

- virtual bool **hasArray** () const

  Tells whether or not this buffer is backed by an accessible byte array.
  If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.
  Returns:

  true if, and only if, this buffer is backed by an array and is not read-only.

- virtual **decaf::nio::CharBuffer** * **asCharBuffer** () const

  Creates a view of this byte buffer as a char buffer.
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the new Char ***Buffer*** (p. *729*)*, which the caller then owns.*

- virtual **decaf::nio::DoubleBuffer** * **asDoubleBuffer** () const

  Creates a view of this byte buffer as a double buffer.
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by eight, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the new double ***Buffer*** (p. *729*)*, which the caller then owns.*

- virtual **decaf::nio::FloatBuffer** * **asFloatBuffer** () const

  Creates a view of this byte buffer as a float buffer.
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by four, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the new float ***Buffer*** (p. *729*)*, which the caller then owns.*

- virtual **decaf::nio::IntBuffer** * **asIntBuffer** () const

  Creates a view of this byte buffer as a int buffer.
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by four, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new int ***Buffer*** *(p. 729), which the caller then owns.*

- virtual **decaf::nio::LongBuffer** * **asLongBuffer** () const

Creates a view of this byte buffer as a long buffer.
The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by eight, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new long ***Buffer*** *(p. 729), which the caller then owns.*

- virtual **decaf::nio::ShortBuffer** * **asShortBuffer** () const

Creates a view of this byte buffer as a short buffer.
The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by two, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new short ***Buffer*** *(p. 729), which the caller then owns.*

- virtual **ByteArrayBuffer** * **asReadOnlyBuffer** () const

Creates a new, read-only byte buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.
If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only byte buffer which the caller then owns.

- virtual **ByteArrayBuffer** & **compact** ()

Compacts this buffer.
The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = ***position()*** *(p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index* ***limit()*** *(p. 733) - 1 is copied to index n =* ***limit()*** *(p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.*
The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this ***ByteBuffer*** *(p. 827).*

Exceptions:

ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** * **duplicate** ()

  Creates a new byte buffer that shares this buffer's content.
  The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
  The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  a new Byte ***Buffer*** *(p. 729) which the caller owns.*

- virtual unsigned char **get** () const

  Relative get method.
  Reads the byte at this buffer's current position, and then increments the position.
  Returns:

  The byte at the buffer's current position.
  Exceptions:

  BufferUnderflowException *(p. 757) if the buffer's current position is not smaller than its limit.*

- virtual unsigned char **get** (int index) const

  Absolute get method.
  Reads the byte at the given index.
  Parameters:

  index *The index in the* ***Buffer*** *(p. 729) where the byte is to be read.*
  Returns:

  the byte that is located at the given index.
  Exceptions:

  IndexOutOfBoundsException *if index is not smaller than the buffer's limit, or index is negative.*

- virtual char **getChar** ()

  Reads the next byte at this buffer's current position, and then increments the position by one.
  Returns:

  the next char in the buffer.
  Exceptions:

  BufferUnderflowException *(p. 757) if there are no more bytes remaining in this buffer, meaning we have reached the set limit.*

- virtual char **getChar** (int index) const

  Reads one byte at the given index and returns it.
  Parameters:

  index *The index in the* ***Buffer*** *(p. 729) where the byte is to be read.*
  Returns:

  the char at the given index in the buffer
  Exceptions:

  IndexOutOfBoundsException *if index is not smaller than the buffer's limit, or index is negative.*

- virtual double **getDouble** ()

  Reads the next eight bytes at this buffer's current position, and then increments the position by that amount.

  Returns:

  the next double in the buffer.

  Exceptions:

  BufferUnderflowException *(p. 757) if there are no more bytes remaining in this buffer, meaning we have reached the set limit.*

- virtual double **getDouble** (int index) const

  Reads eight bytes at the given index and returns it.

  Parameters:

  index *The index in the* ***Buffer*** *(p. 729) where the bytes are to be read.*

  Returns:

  the double at the given index in the buffer.

  Exceptions:

  IndexOutOfBoundsException *if index is not smaller than the buffer's limit, or index is negative.*

- virtual float **getFloat** ()

  Reads the next four bytes at this buffer's current position, and then increments the position by that amount.

  Returns:

  the next float in the buffer.

  Exceptions:

  BufferUnderflowException *(p. 757) if there are no more bytes remaining in this buffer, meaning we have reached the set limit.*

- virtual float **getFloat** (int index) const

  Reads four bytes at the given index and returns it.

  Parameters:

  index *The index in the* ***Buffer*** *(p. 729) where the bytes are to be read.*

  Returns:

  the float at the given index in the buffer.

  Exceptions:

  IndexOutOfBoundsException *if there are not enough bytes remaining to fill the requested Data Type, or index is negative.*

- virtual long long **getLong** ()

  Reads the next eight bytes at this buffer's current position, and then increments the position by that amount.

  Returns:

  the next long long in the buffer.

  Exceptions:

  BufferUnderflowException *(p. 757) if there are no more bytes remaining in this buffer, meaning we have reached the set limit.*

- virtual long long **getLong** (int index) const

  Reads eight bytes at the given index and returns it.
  Parameters:

  index *The index in the* ***Buffer*** *(p. 729) where the bytes are to be read.*
  Returns:

  the long long at the given index in the buffer.
  Exceptions:

  IndexOutOfBoundsException *if there are not enough bytes remaining to fill the requested Data Type, or index is negative.*

- virtual int **getInt** ()

  Reads the next four bytes at this buffer's current position, and then increments the position by that amount.
  Returns:

  the next int in the buffer.
  Exceptions:

  BufferUnderflowException *(p. 757) if there are no more bytes remaining in this buffer, meaning we have reached the set limit.*

- virtual int **getInt** (int index) const

  Reads four bytes at the given index and returns it.
  Parameters:

  index *The index in the* ***Buffer*** *(p. 729) where the bytes are to be read.*
  Returns:

  the int at the given index in the buffer.
  Exceptions:

  IndexOutOfBoundsException *if there are not enough bytes remaining to fill the requested Data Type, or index is negative.*

- virtual short **getShort** ()

  Reads the next two bytes at this buffer's current position, and then increments the position by that amount.
  Returns:

  the next short in the buffer.
  Exceptions:

  BufferUnderflowException *(p. 757) if there are no more bytes remaining in this buffer, meaning we have reached the set limit.*

- virtual short **getShort** (int index) const

  Reads two bytes at the given index and returns it.
  Parameters:

  index *The index in the* ***Buffer*** *(p. 729) where the bytes are to be read.*
  Returns:

  the short at the given index in the buffer.
  Exceptions:

  IndexOutOfBoundsException *if there are not enough bytes remaining to fill the requested Data Type, or index is negative.*

- virtual **ByteArrayBuffer** & **put** (unsigned char value)

  Writes the given byte into this buffer at the current position, and then increments the position.

  Parameters:

  value *- the byte value to be written.*

  Returns:

  a reference to this buffer.

  Exceptions:

  BufferOverflowException *(p. 754) if this buffer's current position is not smaller than its limit.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** & **put** (int index, unsigned char value)

  Writes the given byte into this buffer at the given index.

  Parameters:

  index *- position in the* ***Buffer*** *(p. 729) to write the data*
  value *- the byte to write.*

  Returns:

  a reference to this buffer.

  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or index is negative.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** & **putChar** (char value)

  Writes one byte containing the given value, into this buffer at the current position, and then increments the position by one.

  Parameters:

  value *The value to be written.*

  Returns:

  a reference to this buffer.

  Exceptions:

  BufferOverflowException *(p. 754) if there are fewer than bytes remaining in this buffer than the size of the data to be written*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only*

- virtual **ByteArrayBuffer** & **putChar** (int index, char value)

  Writes one byte containing the given value, into this buffer at the given index.

  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data.*
  value *The value to write.*

  Returns:

  a reference to this buffer.

  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or index is negative.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only*

- virtual **ByteArrayBuffer** & **putDouble** (double value)

  Writes eight bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value *The value to be written.*

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754) if there are fewer than bytes remaining in this buffer than the size of the data to be written*
ReadOnlyBufferException *(p. 2520) if this buffer is read-only*

- virtual **ByteArrayBuffer** & **putDouble** (int index, double value)

  Writes eight bytes containing the given value, into this buffer at the given index.

  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data*
  value *The value to write.*

  Returns:

  a reference to this buffer.

  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or index is negative.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** & **putFloat** (float value)

  Writes four bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

  Parameters:

  value *The value to be written.*

  Returns:

  a reference to this buffer.

  Exceptions:

  BufferOverflowException *(p. 754) if there are fewer than bytes remaining in this buffer than the size of the data to be written.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** & **putFloat** (int index, float value)

  Writes four bytes containing the given value, into this buffer at the given index.

  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data*
  value *The value to write.*

  Returns:

  a reference to this buffer.

  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or index is negative.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** & **putLong** (long long value)

  Writes eight bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

  Parameters:

  value *The value to be written.*

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754) if there are fewer than bytes remaining in this buffer than the size of the data to be written.*
ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** & **putLong** (int index, long long value)

Writes eight bytes containing the given value, into this buffer at the given index.

Parameters:

index *The position in the* ***Buffer*** *(p. 729) to write the data.*
value *The value to write.*

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or index is negative.*
ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** & **putInt** (int value)

Writes four bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value *The value to be written.*

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754) if there are fewer than bytes remaining in this buffer than the size of the data to be written*
ReadOnlyBufferException *(p. 2520) if this buffer is read-only*

- virtual **ByteArrayBuffer** & **putInt** (int index, int value)

Writes four bytes containing the given value, into this buffer at the given index.

Parameters:

index *The position in the* ***Buffer*** *(p. 729) to write the data.*
value *The value to write.*

Returns:

a reference to this buffer

Exceptions:

IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or index is negative.*
ReadOnlyBufferException *(p. 2520) if this buffer is read-only*

- virtual **ByteArrayBuffer** & **putShort** (short value)

Writes two bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value *The value to be written.*

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754) if there are fewer than bytes remaining in this buffer than the size of the data to be written.*
ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** & **putShort** (int index, short value)

  Writes two bytes containing the given value, into this buffer at the given index.
  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data*
  value *The value to write.*
  Returns:

  a reference to this buffer
  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or index is negative.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual **ByteArrayBuffer** ∗ **slice** () const

  Creates a new byte buffer whose content is a shared subsequence of this buffer's content.
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the newly create ***ByteBuffer*** *(p. 827) which the caller owns.*

Protected Member Functions

- virtual void **setReadOnly** (bool value)

  Sets this ***ByteArrayBuffer*** *(p. 789) as Read-Only or not Read-Only.*

6.106.1 Detailed Description

This class defines six categories of operations upon byte buffers:. 1. Absolute and relative get and put methods that read and write single bytes; 2. Relative bulk get methods that transfer contiguous sequences of bytes from this buffer into an array; 3. Relative bulk put methods that transfer contiguous sequences of bytes from a byte array or some other byte buffer into this buffer; 4. Absolute and relative get and put methods that read and write values of other primitive types, translating them to and from sequences of bytes in a particular byte order; 5. Methods for creating view buffers, which allow a byte buffer to be viewed as a buffer containing values of some other primitive type; and 6. Methods for compacting, duplicating, and slicing a byte buffer.

Byte buffers can be created either by allocation, which allocates space for the buffer's content, or by wrapping an existing byte array into a buffer.

Access to binary data:

This class defines methods for reading and writing values of all other primitive types, except boolean. Primitive values are translated to (or from) sequences of bytes according to the buffer's current byte order.

For access to heterogeneous binary data, that is, sequences of values of different types, this class defines a family of absolute and relative get and put methods for each type. For 32-bit floating-point values, for example, this class defines:

float **getFloat()** (p. 807) float getFloat(int index) void **putFloat(float f)** (p. 813) void **putFloat(int index, float f)** (p. 812)

Corresponding methods are defined for the types char, short, int, long, and double. The index parameters of the absolute get and put methods are in terms of bytes rather than of the type being read or written.

For access to homogeneous binary data, that is, sequences of values of the same type, this class defines methods that can create views of a given byte buffer. A view buffer is simply another buffer whose content is backed by the byte buffer. Changes to the byte buffer's content will be visible in the view buffer, and vice versa; the two buffers' position, limit, and mark values are independent. The asFloatBuffer method, for example, creates an instance of the FloatBuffer class that is backed by the byte buffer upon which the method is invoked. Corresponding view-creation methods are defined for the types char, short, int, long, and double.

View buffers have two important advantages over the families of type-specific get and put methods described above:

A view buffer is indexed not in terms of bytes but rather in terms of the type-specific size of its values;

A view buffer provides relative bulk get and put methods that can transfer contiguous sequences of values between a buffer and an array or some other buffer of the same type; and

Since:

1.0

6.106.2 Constructor & Destructor Documentation

6.106.2.1 decaf::internal::nio::ByteArrayBuffer::ByteArrayBuffer (int *capacity*, bool *readOnly* = `false`)

Creates a **ByteArrayBuffer** (p. 789) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

capacity The size of the array, this is the limit we read and write to.

readOnly Should this buffer be read-only, default as false

Exceptions:

IllegalArguementException if the capacity value is negative.

6.106.2.2 decaf::internal::nio::ByteArrayBuffer::ByteArrayBuffer (unsigned char * *array*, int *size*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a **ByteArrayBuffer** (p. 789) object that wraps the given array.

Parameters:

array The array to wrap.

size The size of the array passed.

offset The position that is this buffers start position.

length The size of the sub-array, this is the limit we read and write to.

readOnly Should this buffer be read-only, default as false.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if the preconditions of size, offset and length are violated.

6.106.2.3 decaf::internal::nio::ByteArrayBuffer::ByteArrayBuffer (const decaf::lang::Pointer< ByteArrayAdapter > & *array*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset. The capacity and limit of the new **ByteArrayBuffer** (p. 789) will be that of the remaining capacity of the passed buffer.

Parameters:

array The ByteArrayAdapter to wrap

offset The offset into array where the buffer starts

length The length of the array we are wrapping or limit.

readOnly Boolean indicating if this a readOnly buffer.

Exceptions:

NullPointerException if array is NULL

IndexOutOfBoundsException if offset is greater than array capacity.

6.106.2.4 decaf::internal::nio::ByteArrayBuffer::ByteArrayBuffer (const ByteArrayBuffer & *other*)

Create a **ByteArrayBuffer** (p. 789) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.

Parameters:

other The **ByteArrayBuffer** (p. 789) this one is to mirror.

6.106.2.5 virtual decaf::internal::nio::ByteArrayBuffer::~ByteArrayBuffer () `[virtual]`

6.106.3 Member Function Documentation

6.106.3.1 virtual unsigned char* decaf::internal::nio::ByteArrayBuffer::array () `[virtual]`

Returns the byte array that backs this buffer.

Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The array that backs this buffer

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is backed by an array but is read-only

UnsupportedOperationException if this buffer is not backed by an accessible array

Implements **decaf::nio::ByteBuffer** (p. 832).

6.106.3.2 virtual int decaf::internal::nio::ByteArrayBuffer::arrayOffset () const [virtual]

Returns the offset within this buffer's backing array of the first element of the buffer.

If this buffer is backed by an array then buffer position p corresponds to array index p + **arrayOffset()** (p. 832).

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset within this buffer's array of the first element of the buffer.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is backed by an array but is read-only.

UnsupportedOperationException if this buffer is not backed by an accessible array.

Implements **decaf::nio::ByteBuffer** (p. 832).

6.106.3.3 virtual decaf::nio::CharBuffer* decaf::internal::nio::ByteArrayBuffer::asCharBuffer () const [inline, virtual]

Creates a view of this byte buffer as a char buffer.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new Char **Buffer** (p. 729), which the caller then owns.

Implements **decaf::nio::ByteBuffer** (p. 833).

References NULL.

6.106.3.4 virtual decaf::nio::DoubleBuffer* decaf::internal::nio::ByteArrayBuffer::asDoubleBuffer () const [inline, virtual]

Creates a view of this byte buffer as a double buffer.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by eight, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new double **Buffer** (p. 729), which the caller then owns.

Implements **decaf::nio::ByteBuffer** (p. 833).

References NULL.

6.106.3.5 virtual decaf::nio::FloatBuffer* decaf::internal::nio::ByteArrayBuffer::asFloatBuffer () const [inline, virtual]

Creates a view of this byte buffer as a float buffer.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by four, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new float **Buffer** (p. 729), which the caller then owns.

Implements **decaf::nio::ByteBuffer** (p. 833).

References NULL.

6.106.3.6 virtual decaf::nio::IntBuffer* decaf::internal::nio::ByteArrayBuffer::asIntBuffer () const [inline, virtual]

Creates a view of this byte buffer as a int buffer.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by four, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new int **Buffer** (p. 729), which the caller then owns.

Implements **decaf::nio::ByteBuffer** (p. 834).

References NULL.

6.106.3.7 virtual decaf::nio::LongBuffer* decaf::internal::nio::ByteArrayBuffer::asLongBuffer () const [inline, virtual]

Creates a view of this byte buffer as a long buffer.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by eight, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new long **Buffer** (p. 729), which the caller then owns.

Implements **decaf::nio::ByteBuffer** (p. 834).

References NULL.

6.106.3.8 virtual ByteArrayBuffer* decaf::internal::nio::ByteArrayBuffer::asReadOnlyBuffer () const [virtual]

Creates a new, read-only byte buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only byte buffer which the caller then owns.

Implements **decaf::nio::ByteBuffer** (p. 834).

6.106.3.9 virtual decaf::nio::ShortBuffer* decaf::internal::nio::ByteArrayBuffer::asShortBuffer () const [inline, virtual]

Creates a view of this byte buffer as a short buffer.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by two, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new short **Buffer** (p. 729), which the caller then owns.

Implements **decaf::nio::ByteBuffer** (p. 835).

References NULL.

6.106.3.10 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::compact () [virtual]

Compacts this buffer.

The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **ByteBuffer** (p. 827).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 835).

6.106.3.11 virtual ByteArrayBuffer* decaf::internal::nio::ByteArrayBuffer::duplicate () [virtual]

Creates a new byte buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new Byte **Buffer** (p. 729) which the caller owns.

Implements **decaf::nio::ByteBuffer** (p. 835).

6.106.3.12 virtual unsigned char decaf::internal::nio::ByteArrayBuffer::get (int *index*) const [virtual]

Absolute get method.

Reads the byte at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the byte is to be read.

Returns:

the byte that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implements **decaf::nio::ByteBuffer** (p. 836).

6.106.3.13 virtual unsigned char decaf::internal::nio::ByteArrayBuffer::get () const [virtual]

Relative get method.

Reads the byte at this buffer's current position, and then increments the position.

Returns:

The byte at the buffer's current position.

Exceptions:

BufferUnderflowException *(p. 757)* if the buffer's current position is not smaller than its limit.

Implements **decaf::nio::ByteBuffer** (p. 836).

6.106.3.14 virtual char decaf::internal::nio::ByteArrayBuffer::getChar (int *index*) const [inline, virtual]

Reads one byte at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the byte is to be read.

Returns:

the char at the given index in the buffer

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implements **decaf::nio::ByteBuffer** (p. 837).

6.106.3.15 virtual char decaf::internal::nio::ByteArrayBuffer::getChar () [inline, virtual]

Reads the next byte at this buffer's current position, and then increments the position by one.

Returns:

the next char in the buffer.

Exceptions:

BufferUnderflowException *(p. 757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implements **decaf::nio::ByteBuffer** (p. 838).

6.106.3.16 virtual double decaf::internal::nio::ByteArrayBuffer::getDouble (int *index*) const [virtual]

Reads eight bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the double at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implements **decaf::nio::ByteBuffer** (p. 838).

6.106.3.17 virtual double decaf::internal::nio::ByteArrayBuffer::getDouble () [virtual]

Reads the next eight bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next double in the buffer.

Exceptions:

BufferUnderflowException *(*p. *757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implements **decaf::nio::ByteBuffer** (p. 838).

6.106.3.18 virtual float decaf::internal::nio::ByteArrayBuffer::getFloat (int *index*) const [virtual]

Reads four bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the float at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

Implements **decaf::nio::ByteBuffer** (p. 838).

6.106.3.19 virtual float decaf::internal::nio::ByteArrayBuffer::getFloat () [virtual]

Reads the next four bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next float in the buffer.

Exceptions:

BufferUnderflowException *(*p. *757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implements **decaf::nio::ByteBuffer** (p. 839).

6.106.3.20 virtual int decaf::internal::nio::ByteArrayBuffer::getInt (int *index*) const [virtual]

Reads four bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the int at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

Implements **decaf::nio::ByteBuffer** (p. 839).

6.106.3.21 virtual int decaf::internal::nio::ByteArrayBuffer::getInt () [virtual]

Reads the next four bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next int in the buffer.

Exceptions:

BufferUnderflowException *(p. 757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implements **decaf::nio::ByteBuffer** (p. 839).

6.106.3.22 virtual long long decaf::internal::nio::ByteArrayBuffer::getLong (int *index*) const [virtual]

Reads eight bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the long long at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

Implements **decaf::nio::ByteBuffer** (p. 840).

6.106.3.23 virtual long long decaf::internal::nio::ByteArrayBuffer::getLong () [virtual]

Reads the next eight bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next long long in the buffer.

Exceptions:

BufferUnderflowException *(*p. *757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implements **decaf::nio::ByteBuffer** (p. 840).

6.106.3.24 virtual short decaf::internal::nio::ByteArrayBuffer::getShort (int *index*) const [virtual]

Reads two bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the short at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

Implements **decaf::nio::ByteBuffer** (p. 840).

6.106.3.25 virtual short decaf::internal::nio::ByteArrayBuffer::getShort () [virtual]

Reads the next two bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next short in the buffer.

Exceptions:

BufferUnderflowException *(*p. *757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implements **decaf::nio::ByteBuffer** (p. 841).

6.106.3.26 virtual bool decaf::internal::nio::ByteArrayBuffer::hasArray () const [inline, virtual]

Tells whether or not this buffer is backed by an accessible byte array.

If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only.

Implements **decaf::nio::ByteBuffer** (p. 841).

6.106.3.27 virtual bool decaf::internal::nio::ByteArrayBuffer::isReadOnly () const [inline, virtual]

Tells whether or not this buffer is read-only.

Returns:

true if, and only if, this buffer is read-only

Implements **decaf::nio::ByteBuffer** (p. 841).

6.106.3.28 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::put (int *index*, unsigned char *value*) [virtual]

Writes the given byte into this buffer at the given index.

Parameters:

index - position in the **Buffer** (p. 729) to write the data

value - the byte to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 842).

6.106.3.29 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::put (unsigned char *value*) [virtual]

Writes the given byte into this buffer at the current position, and then increments the position.

Parameters:

value - the byte value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if this buffer's current position is not smaller than its limit.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 842).

6.106.3.30 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putChar (int *index*, char *value*) [virtual]

Writes one byte containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implements **decaf::nio::ByteBuffer** (p. 844).

6.106.3.31 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putChar (char *value*) [virtual]

Writes one byte containing the given value, into this buffer at the current position, and then increments the position by one.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implements **decaf::nio::ByteBuffer** (p. 844).

6.106.3.32 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putDouble (int *index*, double *value*) [virtual]

Writes eight bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 845).

6.106.3.33 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putDouble (double *value*) [virtual]

Writes eight bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implements **decaf::nio::ByteBuffer** (p. 845).

6.106.3.34 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putFloat (int *index*, float *value*) [virtual]

Writes four bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 845).

6.106.3.35 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putFloat (float *value*) [virtual]

Writes four bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 846).

6.106.3.36 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putInt (int *index*, int *value*) [virtual]

Writes four bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The value to write.

Returns:

a reference to this buffer

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implements **decaf::nio::ByteBuffer** (p. 846).

6.106.3.37 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putInt (int *value*) [virtual]

Writes four bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implements **decaf::nio::ByteBuffer** (p. 847).

6.106.3.38 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putLong (int *index*, long long *value*) [virtual]

Writes eight bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 847).

6.106.3.39 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putLong (long long *value*) [virtual]

Writes eight bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 847).

6.106.3.40 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putShort (int *index*, short *value*) [virtual]

Writes two bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data

value The value to write.

Returns:

a reference to this buffer

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 848).

6.106.3.41 virtual ByteArrayBuffer& decaf::internal::nio::ByteArrayBuffer::putShort (short *value*) [virtual]

Writes two bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ByteBuffer** (p. 848).

6.106.3.42 virtual void decaf::internal::nio::ByteArrayBuffer::setReadOnly (bool *value*) [inline, protected, virtual]

Sets this **ByteArrayBuffer** (p. 789) as Read-Only or not Read-Only.

Parameters:

value Boolean value, true if this buffer is to be read-only, false otherwise.

6.106.3.43 virtual ByteArrayBuffer* decaf::internal::nio::ByteArrayBuffer::slice () const [virtual]

Creates a new byte buffer whose content is a shared subsequence of this buffer's content.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **ByteBuffer** (p. 827) which the caller owns.

Implements **decaf::nio::ByteBuffer** (p. 849).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/nio/**ByteArrayBuffer.h**

6.107 decaf::io::ByteArrayInputStream Class Reference

A **ByteArrayInputStream** (p. 817) contains an **internal** (p. 96) buffer that contains bytes that may be read from the stream.

`#include <src/main/decaf/io/ByteArrayInputStream.h>`Inheritance diagram for decaf::io::ByteArrayInputStream:

Public Member Functions

- **ByteArrayInputStream** ()

  *Creates an **ByteArrayInputStream** (p. 817) with an empty input buffer, the buffer can be initialized with a call to setByteArray.*

- **ByteArrayInputStream** (const std::vector< unsigned char > &buffer)

  Creates the input stream and calls setBuffer with the specified buffer object.

- **ByteArrayInputStream** (const unsigned char *buffer, int bufferSize, bool own=false)

  *Create an instance of the **ByteArrayInputStream** (p. 817) with the given buffer as the source of input for all read operations.*

- **ByteArrayInputStream** (const unsigned char *buffer, int bufferSize, int offset, int length, bool own=false)

  *Create an instance of the **ByteArrayInputStream** (p. 817) with the given buffer as the source of input for all read operations.*

- virtual ~**ByteArrayInputStream** ()
- virtual void **setByteArray** (const std::vector< unsigned char > &buffer)

  *Sets the **internal** (p. 96) buffer.*

- virtual void **setByteArray** (const unsigned char *buffer, int bufferSize)

  Sets the data that this reader uses, replaces any existing data and resets to beginning of the buffer.

- virtual void **setByteArray** (const unsigned char *buffer, int bufferSize, int offset, int length)

  Sets the data that this reader uses, replaces any existing data and resets to beginning of the buffer.

- virtual int **available** () const

  Indicates the number of bytes available.
  The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.
  The default implementation of this method returns zero.
  Returns:

  the number of bytes available on this input stream.

  Exceptions:

  ***IOException** (p. **1774**) if an I/O error occurs.*

- virtual long long **skip** (long long num)

  Skips over and discards n bytes of data from this input stream.
  The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned. The skip method of ***InputStream*** *(p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.*
  Parameters:

  num *The number of bytes to skip.*
  Returns:

  total bytes skipped
  Exceptions:

  IOException *(p. 1774) if an I/O error occurs.*
  UnsupportedOperationException *if the concrete stream class does not support skipping bytes.*

- virtual void **mark** (int readLimit)

  Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.
  If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.
  Calling mark on a closed stream instance should have no effect.
  The default implementation of this method does nothing.
  Parameters:

  readLimit *The max bytes read before marked position is invalid.*

- virtual void **reset** ()

  Repositions this stream to the position at the time the mark method was last called on this input stream.
  If the method markSupported returns true, then: ∗ If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an ***IOException*** *(p. 1774) might be thrown. ∗ If such an* ***IOException*** *(p. 1774) is not thrown, then the stream is reset to a state such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.*
  If the method markSupported returns false, then: ∗ The call to reset may throw an ***IOException*** *(p. 1774). ∗ If an* ***IOException*** *(p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.*
  The default implementation of this method throws an ***IOException*** *(p. 1774).*
  Exceptions:

  IOException *(p. 1774) if an I/O error occurs.*

- virtual bool **markSupported** () const

  Determines if this input stream supports the mark and reset methods.
  Whether or not mark and reset are supported is an invariant property of a particular input stream instance.
  The default implementation of this method returns false.
  Returns:

  true if this stream instance supports marks

Protected Member Functions

- virtual int **doReadByte** ()
- virtual int **doReadArrayBounded** (unsigned char *buffer, int size, int offset, int length)

6.107.1 Detailed Description

A **ByteArrayInputStream** (p. 817) contains an **internal** (p. 96) buffer that contains bytes that may be read from the stream. An **internal** (p. 96) counter keeps track of the next byte to be supplied by the read method. The **ByteArrayInputStream** (p. 817) never copies the supplied buffers, only points to them, therefore the caller must ensure that the supplied buffer remain in scope, or is not deleted before this **ByteArrayInputStream** (p. 817) is freed. If the own argument of one of the constructors that accepts an array pointer is set to true than the **ByteArrayInputStream** (p. 817) instance will take ownership of the supplied pointer and delete it when that instance is destroyed.

Closing a **ByteArrayInputStream** (p. 817) has no effect. The methods in this class can be called after the stream has been closed without generating an **IOException** (p. 1774).

Since:

1.0

6.107.2 Constructor & Destructor Documentation

6.107.2.1 decaf::io::ByteArrayInputStream::ByteArrayInputStream ()

Creates an **ByteArrayInputStream** (p. 817) with an empty input buffer, the buffer can be initialized with a call to setByteArray.

6.107.2.2 decaf::io::ByteArrayInputStream::ByteArrayInputStream (const std::vector< unsigned char > & *buffer*)

Creates the input stream and calls setBuffer with the specified buffer object.

Parameters:

buffer The buffer to be used.

6.107.2.3 decaf::io::ByteArrayInputStream::ByteArrayInputStream (const unsigned char * *buffer*, int *bufferSize*, bool *own* = `false`)

Create an instance of the **ByteArrayInputStream** (p. 817) with the given buffer as the source of input for all read operations.

Parameters:

buffer The initial byte array to use to read from.

bufferSize The size of the buffer.

own Indicates if this object should take ownership of the array, default is false.

Exceptions:

NullPointerException if the buffer is Null.

IllegalArguementException if the bufferSize is negative.

6.107.2.4 decaf::io::ByteArrayInputStream::ByteArrayInputStream (const unsigned char * *buffer*, int *bufferSize*, int *offset*, int *length*, bool *own* = `false`)

Create an instance of the **ByteArrayInputStream** (p. 817) with the given buffer as the source of input for all read operations.

Parameters:

buffer The initial byte array to use to read from.

bufferSize The size of the buffer.

offset The offset into the buffer to begin reading from.

length The number of bytes to read past the offset.

own Indicates if this object should take ownership of the array, default is false.

Exceptions:

NullPointerException if the buffer is Null.

IllegalArguementException if the bufferSize is negative.

6.107.2.5 virtual decaf::io::ByteArrayInputStream::~ByteArrayInputStream () `[virtual]`

6.107.3 Member Function Documentation

6.107.3.1 virtual int decaf::io::ByteArrayInputStream::available () const `[virtual]`

Indicates the number of bytes available.

The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented from **decaf::io::InputStream** (p. 1695).

6.107.3.2 virtual int decaf::io::ByteArrayInputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::InputStream** (p. 1696).

6.107.3.3 virtual int decaf::io::ByteArrayInputStream::doReadByte () [protected, virtual]

Implements **decaf::io::InputStream** (p. 1697).

6.107.3.4 virtual void decaf::io::ByteArrayInputStream::mark (int *readLimit*) [virtual]

Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.

If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.

Calling mark on a closed stream instance should have no effect.

The default implementation of this method does nothing.

Parameters:

readLimit The max bytes read before marked position is invalid.

Reimplemented from **decaf::io::InputStream** (p. 1697).

6.107.3.5 virtual bool decaf::io::ByteArrayInputStream::markSupported () const [inline, virtual]

Determines if this input stream supports the mark and reset methods.

Whether or not mark and reset are supported is an invariant property of a particular input stream instance.

The default implementation of this method returns false.

Returns:

true if this stream instance supports marks

Reimplemented from **decaf::io::InputStream** (p. 1697).

6.107.3.6 virtual void decaf::io::ByteArrayInputStream::reset () [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

If the method markSupported returns true, then: * If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an **IOException** (p. 1774) might be thrown. * If such an **IOException** (p. 1774) is not thrown, then the stream is reset to a state

such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.

If the method markSupported returns false, then: * The call to reset may throw an **IOException** (p. 1774). * If an **IOException** (p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.

The default implementation of this method throws an **IOException** (p. 1774).

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented from **decaf::io::InputStream** (p. 1700).

6.107.3.7 virtual void decaf::io::ByteArrayInputStream::setByteArray (const unsigned char * *buffer*, int *bufferSize*, int *offset*, int *length*) [virtual]

Sets the data that this reader uses, replaces any existing data and resets to beginning of the buffer.

Parameters:

buffer The initial byte array to use to read from.

bufferSize The size of the buffer.

offset The offset into the buffer to begin reading from.

length The number of bytes to read past the offset.

Exceptions:

NullPointerException if the buffer is Null.

IllegalArguementException if the bufferSize is negative.

6.107.3.8 virtual void decaf::io::ByteArrayInputStream::setByteArray (const unsigned char * *buffer*, int *bufferSize*) [virtual]

Sets the data that this reader uses, replaces any existing data and resets to beginning of the buffer.

Parameters:

buffer The initial byte array to use to read from.

bufferSize The size of the buffer.

Exceptions:

NullPointerException if the buffer is Null.

IllegalArguementException if the bufferSize is negative.

6.107.3.9 virtual void decaf::io::ByteArrayInputStream::setByteArray (const std::vector< unsigned char > & *buffer*) [virtual]

Sets the **internal** (p. 96) buffer. The input stream will wrap around this buffer and will perform all read operations on it. The position will be reinitialized to the beginning of the specified buffer. This class will not own the given buffer - it is the caller's responsibility to free the memory of the given buffer as appropriate.

Parameters:

buffer The buffer to be used.

6.107.3.10 virtual long long decaf::io::ByteArrayInputStream::skip (long long *num*) [virtual]

Skips over and discards n bytes of data from this input stream.

The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

Reimplemented from **decaf::io::InputStream** (p. 1700).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**ByteArrayInputStream.h**

6.108 decaf::io::ByteArrayOutputStream Class Reference

`#include <src/main/decaf/io/ByteArrayOutputStream.h>`Inheritance diagram for decaf::io::ByteArrayOutputStream:

Public Member Functions

- **ByteArrayOutputStream** ()

  Default Constructor - uses a default ***internal*** *(p. 96) buffer of 32 bytes, the size increases as the need for more room arises.*

- **ByteArrayOutputStream** (int bufferSize)

  Creates a ***ByteArrayOutputStream*** *(p. 824) with an* ***internal*** *(p. 96) buffer allocated with the given size.*

- virtual ~**ByteArrayOutputStream** ()
- std::pair< unsigned char *, int > **toByteArray** () const

  Creates a newly allocated byte array.

- long long **size** () const

  Gets the current count of bytes written into this ***ByteArrayOutputStream*** *(p. 824).*

- virtual void **reset** ()

  Clear current Stream contents.

- virtual std::string **toString** () const

  Converts the bytes in the buffer into a standard C++ string.

- void **writeTo** (**OutputStream** *out) const

  Writes the complete contents of this byte array output stream to the specified output stream argument, as if by calling the output stream's write method using out.write(buf, 0, count).

Protected Member Functions

- virtual void **doWriteByte** (unsigned char value)
- virtual void **doWriteArrayBounded** (const unsigned char *buffer, int size, int offset, int length)

6.108.1 Constructor & Destructor Documentation

6.108.1.1 decaf::io::ByteArrayOutputStream::ByteArrayOutputStream ()

Default Constructor - uses a default **internal** (p. 96) buffer of 32 bytes, the size increases as the need for more room arises.

6.108.1.2 decaf::io::ByteArrayOutputStream::ByteArrayOutputStream (int *bufferSize*)

Creates a **ByteArrayOutputStream** (p. 824) with an **internal** (p. 96) buffer allocated with the given size.

Parameters:

bufferSize The size to use for the **internal** (p. 96) buffer.

Exceptions:

IllegalArgumentException if the size is less than or equal to zero.

6.108.1.3 virtual decaf::io::ByteArrayOutputStream::~ByteArrayOutputStream () [virtual]

6.108.2 Member Function Documentation

6.108.2.1 virtual void decaf::io::ByteArrayOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::OutputStream** (p. 2335).

6.108.2.2 virtual void decaf::io::ByteArrayOutputStream::doWriteByte (unsigned char *value*) [protected, virtual]

Implements **decaf::io::OutputStream** (p. 2335).

6.108.2.3 virtual void decaf::io::ByteArrayOutputStream::reset () [virtual]

Clear current Stream contents.

Exceptions:

IOException *(p. 1774)*

6.108.2.4 long long decaf::io::ByteArrayOutputStream::size () const

Gets the current count of bytes written into this **ByteArrayOutputStream** (p. 824).

Returns:

the number of valid bytes contained in the **ByteArrayOutputStream** (p. 824).

6.108.2.5 std::pair<unsigned char*, int> decaf::io::ByteArrayOutputStream::toByteArray () const

Creates a newly allocated byte array. Its size is the current size of this output stream and the valid contents of the buffer have been copied into it. The newly allocated array and its size are

returned inside an STL pair structure, the caller is responsible for freeing the returned array.

Returns:

an STL pair containing the copied array and its size.

6.108.2.6 virtual std::string decaf::io::ByteArrayOutputStream::toString () const [virtual]

Converts the bytes in the buffer into a standard C++ string.

Returns:

a string containing the bytes in the buffer

Reimplemented from **decaf::io::OutputStream** (p. 2336).

6.108.2.7 void decaf::io::ByteArrayOutputStream::writeTo (OutputStream * *out*) const

Writes the complete contents of this byte array output stream to the specified output stream argument, as if by calling the output stream's write method using out.write(buf, 0, count).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**ByteArrayOutputStream.h**

6.109 decaf::nio::ByteBuffer Class Reference

This class defines six categories of operations upon byte buffers:.

`#include <src/main/decaf/nio/ByteBuffer.h>`Inheritance diagram for decaf::nio::ByteBuffer:

Public Member Functions

- virtual ~**ByteBuffer** ()
- virtual std::string **toString** () const
- **ByteBuffer** & **get** (std::vector< unsigned char > buffer)

  Relative bulk get method.
- **ByteBuffer** & **get** (unsigned char *buffer, int size, int offset, int length)

  Relative bulk get method.
- **ByteBuffer** & **put** (**ByteBuffer** &src)

  This method transfers the bytes remaining in the given source buffer into this buffer.
- **ByteBuffer** & **put** (const unsigned char *buffer, int size, int offset, int length)

  This method transfers bytes into this buffer from the given source array.
- **ByteBuffer** & **put** (std::vector< unsigned char > &buffer)

  This method transfers the entire content of the given source byte array into this buffer.
- virtual bool **isReadOnly** () const =0

  Tells whether or not this buffer is read-only.
- virtual unsigned char * **array** ()=0

  Returns the byte array that backs this buffer.
- virtual int **arrayOffset** () const =0

  Returns the offset within this buffer's backing array of the first element of the buffer.
- virtual bool **hasArray** () const =0

  Tells whether or not this buffer is backed by an accessible byte array.
- virtual **CharBuffer** * **asCharBuffer** () const =0

  Creates a view of this byte buffer as a char buffer.
- virtual **DoubleBuffer** * **asDoubleBuffer** () const =0

  Creates a view of this byte buffer as a double buffer.
- virtual **FloatBuffer** * **asFloatBuffer** () const =0

  Creates a view of this byte buffer as a float buffer.
- virtual **IntBuffer** * **asIntBuffer** () const =0

Creates a view of this byte buffer as a int buffer.

- virtual **LongBuffer** * **asLongBuffer** () const =0

  Creates a view of this byte buffer as a long buffer.

- virtual **ShortBuffer** * **asShortBuffer** () const =0

  Creates a view of this byte buffer as a short buffer.

- virtual **ByteBuffer** * **asReadOnlyBuffer** () const =0

  Creates a new, read-only byte buffer that shares this buffer's content.

- virtual **ByteBuffer** & **compact** ()=0

  Compacts this buffer.

- virtual **ByteBuffer** * **duplicate** ()=0

  Creates a new byte buffer that shares this buffer's content.

- virtual unsigned char **get** () const =0

  Relative get method.

- virtual unsigned char **get** (int index) const =0

  Absolute get method.

- virtual char **getChar** ()=0

  Reads the next byte at this buffer's current position, and then increments the position by one.

- virtual char **getChar** (int index) const =0

  Reads one byte at the given index and returns it.

- virtual double **getDouble** ()=0

  Reads the next eight bytes at this buffer's current position, and then increments the position by that amount.

- virtual double **getDouble** (int index) const =0

  Reads eight bytes at the given index and returns it.

- virtual float **getFloat** ()=0

  Reads the next four bytes at this buffer's current position, and then increments the position by that amount.

- virtual float **getFloat** (int index) const =0

  Reads four bytes at the given index and returns it.

- virtual long long **getLong** ()=0

  Reads the next eight bytes at this buffer's current position, and then increments the position by that amount.

- virtual long long **getLong** (int index) const =0

  Reads eight bytes at the given index and returns it.

- virtual int **getInt** ()=0

  Reads the next four bytes at this buffer's current position, and then increments the position by that amount.

- virtual int **getInt** (int index) const =0

  Reads four bytes at the given index and returns it.

- virtual short **getShort** ()=0

  Reads the next two bytes at this buffer's current position, and then increments the position by that amount.

- virtual short **getShort** (int index) const =0

  Reads two bytes at the given index and returns it.

- virtual **ByteBuffer** & **put** (unsigned char value)=0

  Writes the given byte into this buffer at the current position, and then increments the position.

- virtual **ByteBuffer** & **put** (int index, unsigned char value)=0

  Writes the given byte into this buffer at the given index.

- virtual **ByteBuffer** & **putChar** (char value)=0

  Writes one byte containing the given value, into this buffer at the current position, and then increments the position by one.

- virtual **ByteBuffer** & **putChar** (int index, char value)=0

  Writes one byte containing the given value, into this buffer at the given index.

- virtual **ByteBuffer** & **putDouble** (double value)=0

  Writes eight bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

- virtual **ByteBuffer** & **putDouble** (int index, double value)=0

  Writes eight bytes containing the given value, into this buffer at the given index.

- virtual **ByteBuffer** & **putFloat** (float value)=0

  Writes four bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

- virtual **ByteBuffer** & **putFloat** (int index, float value)=0

  Writes four bytes containing the given value, into this buffer at the given index.

- virtual **ByteBuffer** & **putLong** (long long value)=0

  Writes eight bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

- virtual **ByteBuffer** & **putLong** (int index, long long value)=0

  Writes eight bytes containing the given value, into this buffer at the given index.

- virtual **ByteBuffer** & **putInt** (int value)=0

  Writes four bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

- virtual **ByteBuffer** & **putInt** (int index, int value)=0

  Writes four bytes containing the given value, into this buffer at the given index.

- virtual **ByteBuffer** & **putShort** (short value)=0

  Writes two bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

- virtual **ByteBuffer** & **putShort** (int index, short value)=0

  Writes two bytes containing the given value, into this buffer at the given index.

- virtual **ByteBuffer** * **slice** () const =0

  Creates a new byte buffer whose content is a shared subsequence of this buffer's content.

- virtual int **compareTo** (const **ByteBuffer** &value) const

- virtual bool **equals** (const **ByteBuffer** &value) const

- virtual bool **operator==** (const **ByteBuffer** &value) const

- virtual bool **operator<** (const **ByteBuffer** &value) const

Static Public Member Functions

- static **ByteBuffer** * **allocate** (int capacity)

  Allocates a new byte buffer whose position will be zero its limit will be its capacity and its mark is not set.

- static **ByteBuffer** * **wrap** (unsigned char *array, int size, int offset, int length)

  *Wraps the passed buffer with a new **ByteBuffer** (p. 827).*

- static **ByteBuffer** * **wrap** (std::vector< unsigned char > &buffer)

  *Wraps the passed STL Byte Vector in a **ByteBuffer** (p. 827).*

Protected Member Functions

- **ByteBuffer** (int capacity)

  *Creates a **ByteBuffer** (p. 827) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

6.109.1 Detailed Description

This class defines six categories of operations upon byte buffers:. 1. Absolute and relative get and put methods that read and write single bytes; 2. Relative bulk get methods that transfer contiguous sequences of bytes from this buffer into an array; 3. Relative bulk put methods that transfer contiguous sequences of bytes from a byte array or some other byte buffer into this buffer; 4. Absolute and relative get and put methods that read and write values of other primitive types, translating them to and from sequences of bytes in a particular byte order; 5. Methods for creating view buffers, which allow a byte buffer to be viewed as a buffer containing values of some other primitive type; and 6. Methods for compacting, duplicating, and slicing a byte buffer.

Byte buffers can be created either by allocation, which allocates space for the buffer's content, or by wrapping an existing byte array into a buffer.

Access to binary data:

This class defines methods for reading and writing values of all other primitive types, except boolean. Primitive values are translated to (or from) sequences of bytes according to the buffer's current byte order.

For access to heterogeneous binary data, that is, sequences of values of different types, this class defines a family of absolute and relative get and put methods for each type. For 32-bit floating-point values, for example, this class defines:

float **getFloat()** (p. 839) float getFloat(int index) void **putFloat(float f)** (p. 846) void **putFloat(int index, float f)** (p. 845)

Corresponding methods are defined for the types char, short, int, long, and double. The index parameters of the absolute get and put methods are in terms of bytes rather than of the type being read or written.

For access to homogeneous binary data, that is, sequences of values of the same type, this class defines methods that can create views of a given byte buffer. A view buffer is simply another buffer whose content is backed by the byte buffer. Changes to the byte buffer's content will be visible in the view buffer, and vice versa; the two buffers' position, limit, and mark values are independent. The asFloatBuffer method, for example, creates an instance of the **FloatBuffer** (p. 1538) class that is backed by the byte buffer upon which the method is invoked. Corresponding view-creation methods are defined for the types char, short, int, long, and double.

View buffers have two important advantages over the families of type-specific get and put methods described above:

A view buffer is indexed not in terms of bytes but rather in terms of the type-specific size of its values;

A view buffer provides relative bulk get and put methods that can transfer contiguous sequences of values between a buffer and an array or some other buffer of the same type; and

6.109.2 Constructor & Destructor Documentation

6.109.2.1 decaf::nio::ByteBuffer::ByteBuffer (int *capacity*) [protected]

Creates a **ByteBuffer** (p. 827) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

capacity The size of the array, this is the limit we read and write to.

Exceptions:

IllegalArgumentException if capacity is negative.

6.109.2.2 virtual decaf::nio::ByteBuffer::~ByteBuffer () [inline, virtual]

6.109.3 Member Function Documentation

6.109.3.1 static ByteBuffer* decaf::nio::ByteBuffer::allocate (int *capacity*) [static]

Allocates a new byte buffer whose position will be zero its limit will be its capacity and its mark is not set.

Parameters:

capacity The **internal** (p. 96) buffer's capacity.

Returns:

a newly allocated **ByteBuffer** (p. 827) which the caller owns.

Exceptions:

IllegalArgumentException if capacity is negative.

6.109.3.2 virtual unsigned char* decaf::nio::ByteBuffer::array () [pure virtual]

Returns the byte array that backs this buffer. Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The array that backs this buffer

Exceptions:

ReadOnlyBufferException *(*p. *2520)* if this buffer is backed by an array but is read-only

UnsupportedOperationException if this buffer is not backed by an accessible array

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 800).

6.109.3.3 virtual int decaf::nio::ByteBuffer::arrayOffset () const [pure virtual]

Returns the offset within this buffer's backing array of the first element of the buffer. If this buffer is backed by an array then buffer position p corresponds to array index p + **arrayOffset()** (p. 832).

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset within this buffer's array of the first element of the buffer.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is backed by an array but is read-only.

UnsupportedOperationException if this buffer is not backed by an accessible array.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 801).

6.109.3.4 virtual CharBuffer* decaf::nio::ByteBuffer::asCharBuffer () const [pure virtual]

Creates a view of this byte buffer as a char buffer. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new Char **Buffer** (p. 729), which the caller then owns.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 801).

6.109.3.5 virtual DoubleBuffer* decaf::nio::ByteBuffer::asDoubleBuffer () const [pure virtual]

Creates a view of this byte buffer as a double buffer. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by eight, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new double **Buffer** (p. 729), which the caller then owns.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 802).

6.109.3.6 virtual FloatBuffer* decaf::nio::ByteBuffer::asFloatBuffer () const [pure virtual]

Creates a view of this byte buffer as a float buffer. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by four, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new float **Buffer** (p. 729), which the caller then owns.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 802).

6.109.3.7 virtual IntBuffer* decaf::nio::ByteBuffer::asIntBuffer () const [pure virtual]

Creates a view of this byte buffer as a int buffer. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by four, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new int **Buffer** (p. 729), which the caller then owns.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 802).

6.109.3.8 virtual LongBuffer* decaf::nio::ByteBuffer::asLongBuffer () const [pure virtual]

Creates a view of this byte buffer as a long buffer. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by eight, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new long **Buffer** (p. 729), which the caller then owns.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 803).

6.109.3.9 virtual ByteBuffer* decaf::nio::ByteBuffer::asReadOnlyBuffer () const [pure virtual]

Creates a new, read-only byte buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only byte buffer which the caller then owns.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 803).

6.109.3.10 virtual ShortBuffer* decaf::nio::ByteBuffer::asShortBuffer () const [pure virtual]

Creates a view of this byte buffer as a short buffer. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer divided by two, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the new short **Buffer** (p. 729), which the caller then owns.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 804).

6.109.3.11 virtual ByteBuffer& decaf::nio::ByteBuffer::compact () [pure virtual]

Compacts this buffer. The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **ByteBuffer** (p. 827).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 804).

6.109.3.12 virtual int decaf::nio::ByteBuffer::compareTo (const ByteBuffer & *value*) const [virtual]

6.109.3.13 virtual ByteBuffer* decaf::nio::ByteBuffer::duplicate () [pure virtual]

Creates a new byte buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new Byte **Buffer** (p. 729) which the caller owns.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 804).

6.109.3.14 virtual bool decaf::nio::ByteBuffer::equals (const ByteBuffer & *value*) const [virtual]

6.109.3.15 virtual unsigned char decaf::nio::ByteBuffer::get (int *index*) const [pure virtual]

Absolute get method. Reads the byte at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the byte is to be read.

Returns:

the byte that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 805).

6.109.3.16 virtual unsigned char decaf::nio::ByteBuffer::get () const [pure virtual]

Relative get method. Reads the byte at this buffer's current position, and then increments the position.

Returns:

The byte at the buffer's current position.

Exceptions:

BufferUnderflowException *(p. 757)* if the buffer's current position is not smaller than its limit.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 805).

6.109.3.17 ByteBuffer& decaf::nio::ByteBuffer::get (unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Relative bulk get method. This method transfers bytes from this buffer into the given destination array. If there are fewer bytes remaining in the buffer than are required to satisfy the request, that is, if length > **remaining()** (p. 734), then no bytes are transferred and a **BufferUnderflowException** (p. 757) is thrown.

Otherwise, this method copies length bytes from this buffer into the given array, starting at the current position of this buffer and at the given offset in the array. The position of this buffer is then incremented by length.

Parameters:

buffer The pointer to an allocated buffer to fill.

size The size of the passed in **Buffer** (p. 729).

offset The position in the buffer to start filling.

length The amount of data to put in the passed buffer.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

BufferUnderflowException *(p. 757)* if there are fewer than length bytes remaining in this buffer.

NullPointerException if the passed buffer is null.

6.109.3.18 ByteBuffer& decaf::nio::ByteBuffer::get (std::vector< unsigned char > *buffer*)

Relative bulk get method. This method transfers bytes from this buffer into the given destination vector. An invocation of this method of the form src.get(a) behaves in exactly the same way as the invocation. The vector must be sized to the amount of data that is to be read, that is to say, the caller should call buffer.resize(N) before calling this get method.

Returns:

a reference to this Byte **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(p. 757)* if there are fewer than length bytes remaining in this buffer

6.109.3.19 virtual char decaf::nio::ByteBuffer::getChar (int *index*) const [pure virtual]

Reads one byte at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the byte is to be read.

Returns:

the char at the given index in the buffer

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 805).

6.109.3.20 virtual char decaf::nio::ByteBuffer::getChar () [pure virtual]

Reads the next byte at this buffer's current position, and then increments the position by one.

Returns:

the next char in the buffer.

Exceptions:

BufferUnderflowException *(*p. *757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 806).

6.109.3.21 virtual double decaf::nio::ByteBuffer::getDouble (int *index*) const [pure virtual]

Reads eight bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the double at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 806).

6.109.3.22 virtual double decaf::nio::ByteBuffer::getDouble () [pure virtual]

Reads the next eight bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next double in the buffer.

Exceptions:

BufferUnderflowException *(*p. *757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 806).

6.109.3.23 virtual float decaf::nio::ByteBuffer::getFloat (int *index*) const [pure virtual]

Reads four bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the float at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 807).

6.109.3.24 virtual float decaf::nio::ByteBuffer::getFloat () [pure virtual]

Reads the next four bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next float in the buffer.

Exceptions:

BufferUnderflowException *(p. 757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 807).

6.109.3.25 virtual int decaf::nio::ByteBuffer::getInt (int *index*) const [pure virtual]

Reads four bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the int at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 807).

6.109.3.26 virtual int decaf::nio::ByteBuffer::getInt () [pure virtual]

Reads the next four bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next int in the buffer.

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 808).

6.109.3.27 virtual long long decaf::nio::ByteBuffer::getLong (int *index*) const [pure virtual]

Reads eight bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the long long at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 808).

6.109.3.28 virtual long long decaf::nio::ByteBuffer::getLong () [pure virtual]

Reads the next eight bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next long long in the buffer.

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 808).

6.109.3.29 virtual short decaf::nio::ByteBuffer::getShort (int *index*) const [pure virtual]

Reads two bytes at the given index and returns it.

Parameters:

index The index in the **Buffer** (p. 729) where the bytes are to be read.

Returns:

the short at the given index in the buffer.

Exceptions:

IndexOutOfBoundsException if there are not enough bytes remaining to fill the requested Data Type, or index is negative.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 809).

6.109.3.30 virtual short decaf::nio::ByteBuffer::getShort () [pure virtual]

Reads the next two bytes at this buffer's current position, and then increments the position by that amount.

Returns:

the next short in the buffer.

Exceptions:

BufferUnderflowException *(*p. *757)* if there are no more bytes remaining in this buffer, meaning we have reached the set limit.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 809).

6.109.3.31 virtual bool decaf::nio::ByteBuffer::hasArray () const [pure virtual]

Tells whether or not this buffer is backed by an accessible byte array. If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 809).

6.109.3.32 virtual bool decaf::nio::ByteBuffer::isReadOnly () const [pure virtual]

Tells whether or not this buffer is read-only.

Returns:

true if, and only if, this buffer is read-only

Implements **decaf::nio::Buffer** (p. 732).

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 810).

6.109.3.33 virtual bool decaf::nio::ByteBuffer::operator< (const ByteBuffer & *value*) const [virtual]

6.109.3.34 virtual bool decaf::nio::ByteBuffer::operator== (const ByteBuffer & *value*) const [virtual]

6.109.3.35 virtual ByteBuffer& decaf::nio::ByteBuffer::put (int *index*, unsigned char *value*) [pure virtual]

Writes the given byte into this buffer at the given index.

Parameters:

index - position in the **Buffer** (p. 729) to write the data

value - the byte to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException (p. ***2520***) if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 810).

6.109.3.36 virtual ByteBuffer& decaf::nio::ByteBuffer::put (unsigned char *value*) [pure virtual]

Writes the given byte into this buffer at the current position, and then increments the position.

Parameters:

value - the byte value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException (p. ***754***) if this buffer's current position is not smaller than its limit.

ReadOnlyBufferException (p. ***2520***) if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 810).

6.109.3.37 ByteBuffer& decaf::nio::ByteBuffer::put (std::vector< unsigned char > & *buffer*)

This method transfers the entire content of the given source byte array into this buffer. This is the same as calling put(&buffer[0], buffer.size(), 0, buffer.size())

Parameters:

buffer The buffer whose contents are copied to this **ByteBuffer** (p. 827).

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

6.109.3.38 ByteBuffer& decaf::nio::ByteBuffer::put (const unsigned char * *buffer*, int *size*, int *offset*, int *length*)

This method transfers bytes into this buffer from the given source array. If there are more bytes to be copied from the array than remain in this buffer, that is, if length > **remaining()** (p. 734), then no bytes are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies length bytes from the given array into this buffer, starting at the given offset in the array and at the current position of this buffer. The position of this buffer is then incremented by length.

Parameters:

buffer The array from which bytes are to be read.

size The size of the given array.

offset The offset within the array of the first byte to be read.

length The number of bytes to be read from the given array.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.109.3.39 ByteBuffer& decaf::nio::ByteBuffer::put (ByteBuffer & *src*)

This method transfers the bytes remaining in the given source buffer into this buffer. If there are more bytes remaining in the source buffer than in this buffer, that is, if src.remaining() > **remaining()** (p. 734), then no bytes are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies n = src.remaining() bytes from the given buffer into this buffer, starting at each buffer's current position. The positions of both buffers are then incremented by n.

Parameters:

src The buffer to take bytes from an place in this one.

Returns:

a reference to this buffer

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer for the remaining bytes in the source buffer

IllegalArgumentException if the source buffer is this buffer

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

6.109.3.40 virtual ByteBuffer& decaf::nio::ByteBuffer::putChar (int *index*, char *value*) [pure virtual]

Writes one byte containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 811).

6.109.3.41 virtual ByteBuffer& decaf::nio::ByteBuffer::putChar (char *value*) [pure virtual]

Writes one byte containing the given value, into this buffer at the current position, and then increments the position by one.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 811).

6.109.3.42 virtual ByteBuffer& decaf::nio::ByteBuffer::putDouble (int *index*, double *value*) [pure virtual]

Writes eight bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 811).

6.109.3.43 virtual ByteBuffer& decaf::nio::ByteBuffer::putDouble (double *value*) [pure virtual]

Writes eight bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 812).

6.109.3.44 virtual ByteBuffer& decaf::nio::ByteBuffer::putFloat (int *index*, float *value*) [pure virtual]

Writes four bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 812).

6.109.3.45 virtual ByteBuffer& decaf::nio::ByteBuffer::putFloat (float *value*) [pure virtual]

Writes four bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 813).

6.109.3.46 virtual ByteBuffer& decaf::nio::ByteBuffer::putInt (int *index*, int *value*) [pure virtual]

Writes four bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The value to write.

Returns:

a reference to this buffer

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 813).

6.109.3.47 virtual ByteBuffer& decaf::nio::ByteBuffer::putInt (int *value*) [pure virtual]

Writes four bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 813).

6.109.3.48 virtual ByteBuffer& decaf::nio::ByteBuffer::putLong (int *index*, long long *value*) [pure virtual]

Writes eight bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The value to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 814).

6.109.3.49 virtual ByteBuffer& decaf::nio::ByteBuffer::putLong (long long *value*) [pure virtual]

Writes eight bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 814).

6.109.3.50 virtual ByteBuffer& decaf::nio::ByteBuffer::putShort (int *index*, short *value*) [pure virtual]

Writes two bytes containing the given value, into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data

value The value to write.

Returns:

a reference to this buffer

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 815).

6.109.3.51 virtual ByteBuffer& decaf::nio::ByteBuffer::putShort (short *value*) [pure virtual]

Writes two bytes containing the given value, into this buffer at the current position, and then increments the position by eight.

Parameters:

value The value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there are fewer than bytes remaining in this buffer than the size of the data to be written.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 815).

6.109.3.52 virtual ByteBuffer* decaf::nio::ByteBuffer::slice () const [pure virtual]

Creates a new byte buffer whose content is a shared subsequence of this buffer's content. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **ByteBuffer** (p. 827) which the caller owns.

Implemented in **decaf::internal::nio::ByteArrayBuffer** (p. 816).

6.109.3.53 virtual std::string decaf::nio::ByteBuffer::toString () const [virtual]

Returns:

a std::string describing this object

6.109.3.54 static ByteBuffer* decaf::nio::ByteBuffer::wrap (std::vector< unsigned char > & *buffer*) [static]

Wraps the passed STL Byte Vector in a **ByteBuffer** (p. 827). The new buffer will be backed by the given byte array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new **ByteBuffer** (p. 827) that is backed by buffer, caller owns.

6.109.3.55 static ByteBuffer* decaf::nio::ByteBuffer::wrap (unsigned char * *array*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new **ByteBuffer** (p. 827). The new buffer will be backed by the given byte array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

array The array that will back the new buffer.

size The size of the provided array.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new **ByteBuffer** (p. 827) that is backed by buffer, caller owns.

Exceptions:

NullPointerException if the array passed in is NULL.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**ByteBuffer.h**

6.110 cms::BytesMessage Class Reference

A **BytesMessage** (p. 851) object is used to send a message containing a stream of unsigned bytes.

`#include <src/main/cms/BytesMessage.h>`Inheritance diagram for cms::BytesMessage:

Public Member Functions

- virtual ~**BytesMessage** ()
- virtual void **setBodyBytes** (const unsigned char *buffer, int numBytes)=0

  sets the bytes given to the message body.

- virtual unsigned char * **getBodyBytes** () const =0

  Gets the bytes that are contained in this message and returns them in a newly allocated array that becomes the property of the caller.

- virtual int **getBodyLength** () const =0

  Returns the number of bytes contained in the body of this message.

- virtual void **reset** ()=0

  Puts the message body in read-only mode and repositions the stream of bytes to the beginning.

- virtual bool **readBoolean** () const =0

  Reads a Boolean from the Bytes message stream.

- virtual void **writeBoolean** (bool value)=0

  Writes a boolean to the bytes message stream as a 1-byte value.

- virtual unsigned char **readByte** () const =0

  Reads a Byte from the Bytes message stream.

- virtual void **writeByte** (unsigned char value)=0

  Writes a byte to the bytes message stream as a 1-byte value.

- virtual int **readBytes** (std::vector< unsigned char > &value) const =0

  Reads a byte array from the bytes message stream.

- virtual void **writeBytes** (const std::vector< unsigned char > &value)=0

  Writes a byte array to the bytes message stream using the vector size as the number of bytes to write.

- virtual int **readBytes** (unsigned char *buffer, int length) const =0

  Reads a portion of the bytes message stream.

- virtual void **writeBytes** (const unsigned char *value, int offset, int length)=0

  Writes a portion of a byte array to the bytes message stream.

- virtual char **readChar** () const =0

Reads a Char from the Bytes message stream.

- virtual void **writeChar** (char value)=0

  Writes a char to the bytes message stream as a 1-byte value.

- virtual float **readFloat** () const =0

  Reads a 32 bit float from the Bytes message stream.

- virtual void **writeFloat** (float value)=0

  Writes a float to the bytes message stream as a 4 byte value.

- virtual double **readDouble** () const =0

  Reads a 64 bit double from the Bytes message stream.

- virtual void **writeDouble** (double value)=0

  Writes a double to the bytes message stream as a 8 byte value.

- virtual short **readShort** () const =0

  Reads a 16 bit signed short from the Bytes message stream.

- virtual void **writeShort** (short value)=0

  Writes a signed short to the bytes message stream as a 2 byte value.

- virtual unsigned short **readUnsignedShort** () const =0

  Reads a 16 bit unsigned short from the Bytes message stream.

- virtual void **writeUnsignedShort** (unsigned short value)=0

  Writes a unsigned short to the bytes message stream as a 2 byte value.

- virtual int **readInt** () const =0

  Reads a 32 bit signed integer from the Bytes message stream.

- virtual void **writeInt** (int value)=0

  Writes a signed int to the bytes message stream as a 4 byte value.

- virtual long long **readLong** () const =0

  Reads a 64 bit long from the Bytes message stream.

- virtual void **writeLong** (long long value)=0

  Writes a long long to the bytes message stream as a 8 byte value.

- virtual std::string **readString** () const =0

  Reads an ASCII String from the Bytes message stream.

- virtual void **writeString** (const std::string &value)=0

  Writes an ASCII String to the Bytes message stream.

- virtual std::string **readUTF** () const =0

  *Reads an UTF String from the **BytesMessage** (p. 851) stream.*

- virtual void **writeUTF** (const std::string &value)=0
  *Writes an UTF String to the **BytesMessage** (p. 851) stream.*

- virtual **BytesMessage** * **clone** () const =0
  Clones this message.

6.110.1 Detailed Description

A **BytesMessage** (p. 851) object is used to send a message containing a stream of unsigned bytes. It inherits from the **Message** (p. 2077) interface and adds a bytes message body. The receiver of the message supplies the interpretation of the bytes using the methods added by the **BytesMessage** (p. 851) interface.

The **BytesMessage** (p. 851) methods are based largely on those found in **decaf.io.DataInputStream** (p. 1257) and **decaf.io.DataOutputStream** (p. 1270).

Although the CMS API allows the use of message properties with byte messages, they are typically not used, since the inclusion of properties may affect the format.

The primitive types can be written explicitly using methods for each type. Because the C++ language is more limited when dealing with primitive types the JMS equivalent generic read and write methods that take Java objects cannot be provided in the CMS API.

When the message is first created, and when clearBody is called, the body of the message is in write-only mode. After the first call to reset has been made, the message body is in read-only mode. After a message has been sent, the client that sent it can retain and modify it without affecting the message that has been sent. The same message object can be sent multiple times. When a message has been received, the provider has called reset so that the message body is in read-only mode for the client.

If clearBody is called on a message in read-only mode, the message body is cleared and the message is in write-only mode.

If a client attempts to read a message in write-only mode, a **MessageNotReadableException** (p. 2175) is thrown.

If a client attempts to write a message in read-only mode, a **MessageNotWriteableException** (p. 2177) is thrown.

Since:

1.0

6.110.2 Constructor & Destructor Documentation

6.110.2.1 virtual cms::BytesMessage::~BytesMessage () [virtual]

6.110.3 Member Function Documentation

6.110.3.1 virtual BytesMessage* cms::BytesMessage::clone () const [pure virtual]

Clones this message.

Returns:

a deep copy of this message.

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs while cloning the **Message** (p. 2077).

Implements **cms::Message** (p. 2083).

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 216).

6.110.3.2 virtual unsigned char* cms::BytesMessage::getBodyBytes () const [pure virtual]

Gets the bytes that are contained in this message and returns them in a newly allocated array that becomes the property of the caller. This is a copy of the data contained in this message, changing the value contained in this array has no effect on the data contained in this message.

Returns:

pointer to a byte buffer that the call owns upon completion of this method.

Exceptions:

CMSException *(*p. ***973****)* - If an internal error occurs.
MessageNotReadableException *(*p. ***2175****)* - If the message is in Write Only Mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 217).

6.110.3.3 virtual int cms::BytesMessage::getBodyLength () const [pure virtual]

Returns the number of bytes contained in the body of this message.

Returns:

number of bytes.

Exceptions:

CMSException *(*p. ***973****)* - If an internal error occurs.
MessageNotReadableException *(*p. ***2175****)* - If the message is in Write Only Mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 217).

6.110.3.4 virtual bool cms::BytesMessage::readBoolean () const [pure virtual]

Reads a Boolean from the Bytes message stream.

Returns:

boolean value from stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.
MessageEOFException *(*p. ***2157****)* - if unexpected end of bytes stream has been reached.
MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 218).

6.110.3.5 virtual unsigned char cms::BytesMessage::readByte () const [pure virtual]

Reads a Byte from the Bytes message stream.

Returns:

unsigned char value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of bytes stream has been reached.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 218).

6.110.3.6 virtual int cms::BytesMessage::readBytes (unsigned char * *buffer*, int *length*) const [pure virtual]

Reads a portion of the bytes message stream. If the length of array value is less than the number of bytes remaining to be read from the stream, the array should be filled. A subsequent call reads the next increment, and so on.

If the number of bytes remaining in the stream is less than the length of array value, the bytes should be read into the array. The return value of the total number of bytes read will be less than the length of the array, indicating that there are no more bytes left to be read from the stream. The next read of the stream returns -1.

If length is negative, or length is greater than the length of the array value, then an IndexOutOfBoundsException is thrown. No bytes will be read from the stream for this exception case.

Parameters:

buffer the buffer into which the data is read

length the number of bytes to read; must be less than or equal to value.length

Returns:

the total number of bytes read into the buffer, or -1 if there is no more data because the end of the stream has been reached

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of bytes stream has been reached.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 218).

6.110.3.7 virtual int cms::BytesMessage::readBytes (std::vector< unsigned char > & *value*) const [pure virtual]

Reads a byte array from the bytes message stream. If the length of vector value is less than the number of bytes remaining to be read from the stream, the vector should be filled. A subsequent call reads the next increment, and so on.

If the number of bytes remaining in the stream is less than the length of vector value, the bytes should be read into the vector. The return value of the total number of bytes read will be less than the length of the vector, indicating that there are no more bytes left to be read from the stream. The next read of the stream returns -1.

Parameters:

value buffer to place data in

Returns:

the total number of bytes read into the buffer, or -1 if there is no more data because the end of the stream has been reached

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.

MessageEOFException *(*p. ***2157****)* - if unexpected end of bytes stream has been reached.

MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 219).

6.110.3.8 virtual char cms::BytesMessage::readChar () const [pure virtual]

Reads a Char from the Bytes message stream.

Returns:

char value from stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.

MessageEOFException *(*p. ***2157****)* - if unexpected end of bytes stream has been reached.

MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 219).

6.110.3.9 virtual double cms::BytesMessage::readDouble () const [pure virtual]

Reads a 64 bit double from the Bytes message stream.

Returns:

double value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of bytes stream has been reached.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 220).

6.110.3.10 virtual float cms::BytesMessage::readFloat () const [pure virtual]

Reads a 32 bit float from the Bytes message stream.

Returns:

double value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of bytes stream has been reached.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 220).

6.110.3.11 virtual int cms::BytesMessage::readInt () const [pure virtual]

Reads a 32 bit signed integer from the Bytes message stream.

Returns:

int value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of bytes stream has been reached.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 220).

6.110.3.12 virtual long long cms::BytesMessage::readLong () const [pure virtual]

Reads a 64 bit long from the Bytes message stream.

Returns:

long long value from stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.

MessageEOFException *(*p. ***2157****)* - if unexpected end of bytes stream has been reached.

MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 221).

6.110.3.13 virtual short cms::BytesMessage::readShort () const [pure virtual]

Reads a 16 bit signed short from the Bytes message stream.

Returns:

short value from stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.

MessageEOFException *(*p. ***2157****)* - if unexpected end of bytes stream has been reached.

MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 221).

6.110.3.14 virtual std::string cms::BytesMessage::readString () const [pure virtual]

Reads an ASCII String from the Bytes message stream.

Returns:

String from stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.

MessageEOFException *(*p. ***2157****)* - if unexpected end of bytes stream has been reached.

MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 221).

6.110.3.15 virtual unsigned short cms::BytesMessage::readUnsignedShort () const [pure virtual]

Reads a 16 bit unsigned short from the Bytes message stream.

Returns:

unsigned short value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of bytes stream has been reached.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 222).

6.110.3.16 virtual std::string cms::BytesMessage::readUTF () const [pure virtual]

Reads an UTF String from the **BytesMessage** (p. 851) stream.

Returns:

String from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of bytes stream has been reached.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 222).

6.110.3.17 virtual void cms::BytesMessage::reset () [pure virtual]

Puts the message body in read-only mode and repositions the stream of bytes to the beginning.

Exceptions:

CMSException (p. ***973***) - If the provider fails to perform the reset operation.

MessageFormatException (p. ***2159***) - If the **Message** (p. 2077) has an invalid format.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 222).

6.110.3.18 virtual void cms::BytesMessage::setBodyBytes (const unsigned char * *buffer*, int *numBytes*) [pure virtual]

sets the bytes given to the message body.

Parameters:

buffer Byte Buffer to copy

numBytes Number of bytes in Buffer to copy

Exceptions:

CMSException (p. ***973***) - If an internal error occurs.

MessageNotWriteableException (p. ***2177***) - if in Read Only Mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 222).

6.110.3.19 virtual void cms::BytesMessage::writeBoolean (bool *value*) [pure virtual]

Writes a boolean to the bytes message stream as a 1-byte value. The value true is written as the value (byte)1; the value false is written as the value (byte)0.

Parameters:

value boolean to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 223).

6.110.3.20 virtual void cms::BytesMessage::writeByte (unsigned char *value*) [pure virtual]

Writes a byte to the bytes message stream as a 1-byte value.

Parameters:

value byte to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 223).

6.110.3.21 virtual void cms::BytesMessage::writeBytes (const unsigned char * *value*, int *offset*, int *length*) [pure virtual]

Writes a portion of a byte array to the bytes message stream. size as the number of bytes to write.

Parameters:

value bytes to write to the stream

offset the initial offset within the byte array

length the number of bytes to use

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 224).

6.110.3.22 virtual void cms::BytesMessage::writeBytes (const std::vector< unsigned char > & *value*) [pure virtual]

Writes a byte array to the bytes message stream using the vector size as the number of bytes to write.

Parameters:

value bytes to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 224).

6.110.3.23 virtual void cms::BytesMessage::writeChar (char *value*) [pure virtual]

Writes a char to the bytes message stream as a 1-byte value.

Parameters:

value char to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 224).

6.110.3.24 virtual void cms::BytesMessage::writeDouble (double *value*) [pure virtual]

Writes a double to the bytes message stream as a 8 byte value.

Parameters:

value double to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 225).

6.110.3.25 virtual void cms::BytesMessage::writeFloat (float *value*) [pure virtual]

Writes a float to the bytes message stream as a 4 byte value.

Parameters:

value float to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 225).

6.110.3.26 virtual void cms::BytesMessage::writeInt (int *value*) [pure virtual]

Writes a signed int to the bytes message stream as a 4 byte value.

Parameters:

value signed int to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 225).

6.110.3.27 virtual void cms::BytesMessage::writeLong (long long *value*) [pure virtual]

Writes a long long to the bytes message stream as a 8 byte value.

Parameters:

value signed long long to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 225).

6.110.3.28 virtual void cms::BytesMessage::writeShort (short *value*) [pure virtual]

Writes a signed short to the bytes message stream as a 2 byte value.

Parameters:

value signed short to write to the stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException *(*p. ***2177****)* - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 226).

6.110.3.29 virtual void cms::BytesMessage::writeString (const std::string & *value*) [pure virtual]

Writes an ASCII String to the Bytes message stream.

Parameters:

value String to write to the stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException *(*p. ***2177****)* - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 226).

6.110.3.30 virtual void cms::BytesMessage::writeUnsignedShort (unsigned short *value*) [pure virtual]

Writes a unsigned short to the bytes message stream as a 2 byte value.

Parameters:

value unsigned short to write to the stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException *(*p. ***2177****)* - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 226).

6.110.3.31 virtual void cms::BytesMessage::writeUTF (const std::string & *value*) [pure virtual]

Writes an UTF String to the **BytesMessage** (p. 851) stream.

Parameters:

value String to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 227).

The documentation for this class was generated from the following file:

- src/main/cms/**BytesMessage.h**

6.111 activemq::cmsutil::CachedConsumer Class Reference

A cached message consumer contained within a pooled session.

`#include <src/main/activemq/cmsutil/CachedConsumer.h>`Inheritance diagram for activemq::cmsutil::CachedConsumer:

Public Member Functions

- **CachedConsumer** (**cms::MessageConsumer** *consumer)
- virtual ~**CachedConsumer** ()
- virtual void **close** ()

  Does nothing - the real producer resource will be closed by the lifecycle manager.

- virtual void **start** ()

  Starts the service.

- virtual void **stop** ()

  Stops this service.

- virtual **cms::Message** * **receive** ()

  Synchronously Receive a Message.

- virtual **cms::Message** * **receive** (int millisecs)

  Synchronously Receive a Message, time out after defined interval.

- virtual **cms::Message** * **receiveNoWait** ()

  Receive a Message, does not wait if there isn't a new message to read, returns NULL if nothing read.

- virtual void **setMessageListener** (**cms::MessageListener** *listener)

  Sets the MessageListener that this class will send notifs on.

- virtual **cms::MessageListener** * **getMessageListener** () const

  Gets the MessageListener that this class will send mew Message notification events to.

- virtual std::string **getMessageSelector** () const

  Gets this message consumer's message selector expression.

- virtual void **setMessageAvailableListener** (**cms::MessageAvailableListener** *listener)

  Sets the MessageAvailableListener that this class will send events to if the consumer is in synchronous consumption mode and a new Message has arrived.

- virtual **cms::MessageAvailableListener** * **getMessageAvailableListener** () const

  Gets the MessageAvailableListener that this class will send mew Message notification events to.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

Set an MessageTransformer instance that is applied to all ***cms::Message*** *(p. 2077) objects before they are dispatched to client* ***code*** *(p. 999).*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  Gets the currently configured MessageTransformer for this MessageConsumer.

6.111.1 Detailed Description

A cached message consumer contained within a pooled session.

6.111.2 Constructor & Destructor Documentation

6.111.2.1 activemq::cmsutil::CachedConsumer::CachedConsumer (cms::MessageConsumer * *consumer*)

6.111.2.2 virtual activemq::cmsutil::CachedConsumer::~CachedConsumer () [virtual]

6.111.3 Member Function Documentation

6.111.3.1 virtual void activemq::cmsutil::CachedConsumer::close () [inline, virtual]

Does nothing - the real producer resource will be closed by the lifecycle manager.

Implements **cms::Closeable** (p. 959).

6.111.3.2 virtual cms::MessageAvailableListener* activemq::cmsutil::CachedConsumer::getMessageAvailableListener () const [inline, virtual]

Gets the MessageAvailableListener that this class will send mew Message notification events to.

Returns:

The listener of message events received by this consumer.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2115).

References cms::MessageConsumer::getMessageAvailableListener().

6.111.3.3 virtual cms::MessageListener* activemq::cmsutil::CachedConsumer::getMessageListener () const [inline, virtual]

Gets the MessageListener that this class will send mew Message notification events to.

Returns:

The listener of messages received by this consumer

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2116).

References cms::MessageConsumer::getMessageListener().

6.111.3.4 virtual std::string activemq::cmsutil::CachedConsumer::getMessageSelector () const [inline, virtual]

Gets this message consumer's message selector expression.

Returns:

This Consumer's selector expression or "".

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2116).

References cms::MessageConsumer::getMessageSelector().

6.111.3.5 virtual cms::MessageTransformer* activemq::cmsutil::CachedConsumer::getMessageTransformer () const [inline, virtual]

Gets the currently configured MessageTransformer for this MessageConsumer.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::MessageConsumer** (p. 2116).

References cms::MessageConsumer::getMessageTransformer().

6.111.3.6 virtual cms::Message* activemq::cmsutil::CachedConsumer::receive (int *millisecs*) [inline, virtual]

Synchronously Receive a Message, time out after defined interval. Returns null if nothing read.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2117).

References cms::MessageConsumer::receive().

6.111.3.7 virtual cms::Message* activemq::cmsutil::CachedConsumer::receive () [inline, virtual]

Synchronously Receive a Message.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2117).

References cms::MessageConsumer::receive().

6.111.3.8 virtual cms::Message* activemq::cmsutil::CachedConsumer::receiveNoWait () [inline, virtual]

Receive a Message, does not wait if there isn't a new message to read, returns NULL if nothing read.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2117).

References cms::MessageConsumer::receiveNoWait().

6.111.3.9 virtual void activemq::cmsutil::CachedConsumer::setMessageAvailableListener (cms::MessageAvailableListener * *listener*) [inline, virtual]

Sets the MessageAvailableListener that this class will send events to if the consumer is in synchronous consumption mode and a new Message has arrived.

Parameters:

listener The listener of new message events fired by this consumer.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2118).

References cms::MessageConsumer::setMessageAvailableListener().

6.111.3.10 virtual void activemq::cmsutil::CachedConsumer::setMessageListener (cms::MessageListener * *listener*) [inline, virtual]

Sets the MessageListener that this class will send notifs on.

Parameters:

listener The listener of messages received by this consumer.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::MessageConsumer** (p. 2118).

References cms::MessageConsumer::setMessageListener().

6.111.3.11 virtual void activemq::cmsutil::CachedConsumer::setMessageTransformer (cms::MessageTransformer * *transformer*) [inline, virtual]

Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are dispatched to client **code** (p. 999). The CMS **code** (p. 999) never takes ownership of the MessageTransformer pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the MessageTransformer has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to apply on each **cms** (p. 91)::;Message dispatch.

Implements **cms::MessageConsumer** (p. 2118).

References cms::MessageConsumer::setMessageTransformer().

6.111.3.12 virtual void activemq::cmsutil::CachedConsumer::start () [inline, virtual]

Starts the service.

Exceptions:

CMSException if an internal error occurs while starting.

Implements **cms::Startable** (p. 2836).

References cms::Startable::start().

6.111.3.13 virtual void activemq::cmsutil::CachedConsumer::stop () [inline, virtual]

Stops this service.

Exceptions:

CMSException - if an internal error occurs while stopping the Service.

Implements **cms::Stoppable** (p. 2903).

References cms::Stoppable::stop().

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CachedConsumer.h**

6.112 activemq::cmsutil::CachedProducer Class Reference

A cached message producer contained within a pooled session.

`#include <src/main/activemq/cmsutil/CachedProducer.h>`Inheritance diagram for activemq::cmsutil::CachedProducer:

Public Member Functions

- **CachedProducer** (**cms::MessageProducer** *producer)
- virtual ~**CachedProducer** ()
- virtual void **close** ()

  Does nothing - the real producer resource will be closed by the lifecycle manager.

- virtual void **send** (**cms::Message** *message)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**cms::Message** *message, **cms::AsyncCallback** *onComplete)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**cms::Message** *message, int deliveryMode, int priority, long long timeToLive)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**cms::Message** *message, int deliveryMode, int priority, long long timeToLive, **cms::AsyncCallback** *onComplete)

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message, **cms::AsyncCallback** *onComplete)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message, int deliveryMode, int priority, long long timeToLive)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **cms::Destination** *destination, **cms::Message** *message, int deliveryMode, int priority, long long timeToLive, **cms::AsyncCallback** *onComplete)

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **setDeliveryMode** (int mode)

  Sets the delivery mode for this Producer.

- virtual int **getDeliveryMode** () const

  Gets the delivery mode for this Producer.

- virtual void **setDisableMessageID** (bool value)

  Sets if Message Ids are disabled for this Producer.

- virtual bool **getDisableMessageID** () const

  Gets if Message Ids are disabled for this Producer.

- virtual void **setDisableMessageTimeStamp** (bool value)

  Sets if Message Time Stamps are disabled for this Producer.

- virtual bool **getDisableMessageTimeStamp** () const

  Gets if Message Time Stamps are disabled for this Producer.

- virtual void **setPriority** (int priority)

  Sets the Priority that this Producers sends messages at.

- virtual int **getPriority** () const

  Gets the Priority level that this producer sends messages at.

- virtual void **setTimeToLive** (long long time)

  Sets the Time to Live that this Producers sends messages with.

- virtual long long **getTimeToLive** () const

  Gets the Time to Live that this producer sends messages with.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)

  *Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are sent on to the CMS bus.*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const

  Gets the currently configured MessageTransformer for this MessageProducer.

6.112.1 Detailed Description

A cached message producer contained within a pooled session.

6.112.2 Constructor & Destructor Documentation

6.112.2.1 activemq::cmsutil::CachedProducer::CachedProducer (cms::MessageProducer * *producer*)

6.112.2.2 virtual activemq::cmsutil::CachedProducer::~CachedProducer () [virtual]

6.112.3 Member Function Documentation

6.112.3.1 virtual void activemq::cmsutil::CachedProducer::close () [inline, virtual]

Does nothing - the real producer resource will be closed by the lifecycle manager.

Implements **cms::Closeable** (p. 959).

6.112.3.2 virtual int activemq::cmsutil::CachedProducer::getDeliveryMode () const [inline, virtual]

Gets the delivery mode for this Producer.

Returns:

The DeliveryMode

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2181).

References cms::MessageProducer::getDeliveryMode().

6.112.3.3 virtual bool activemq::cmsutil::CachedProducer::getDisableMessageID () const [inline, virtual]

Gets if Message Ids are disabled for this Producer.

Returns:

boolean indicating enable / disable (true / false)

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2181).

References cms::MessageProducer::getDisableMessageID().

6.112.3.4 virtual bool activemq::cmsutil::CachedProducer::getDisableMessageTimeStamp () const [inline, virtual]

Gets if Message Time Stamps are disabled for this Producer.

Returns:

boolean indicating enable / disable (true / false)

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2181).

References cms::MessageProducer::getDisableMessageTimeStamp().

6.112.3.5 virtual cms::MessageTransformer* activemq::cmsutil::CachedProducer::getMessageTransformer () const [inline, virtual]

Gets the currently configured MessageTransformer for this MessageProducer.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::MessageProducer** (p. 2182).

References cms::MessageProducer::getMessageTransformer().

6.112.3.6 virtual int activemq::cmsutil::CachedProducer::getPriority () const [inline, virtual]

Gets the Priority level that this producer sends messages at.

Returns:

int based priority level

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2182).

References cms::MessageProducer::getPriority().

6.112.3.7 virtual long long activemq::cmsutil::CachedProducer::getTimeToLive () const [inline, virtual]

Gets the Time to Live that this producer sends messages with.

Returns:

Time to live value in milliseconds

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2182).

References cms::MessageProducer::getTimeToLive().

6.112.3.8 virtual void activemq::cmsutil::CachedProducer::send (const cms::Destination * *destination*, cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*, cms::AsyncCallback * *onComplete*) [inline, virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

destination The destination on which to send the message

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2183).

References cms::MessageProducer::send().

6.112.3.9 virtual void activemq::cmsutil::CachedProducer::send (const cms::Destination * *destination*, cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*) [inline, virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

Parameters:

destination The destination on which to send the message

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2183).

References cms::MessageProducer::send().

6.112.3.10 virtual void activemq::cmsutil::CachedProducer::send (const cms::Destination * *destination*, cms::Message * *message*, cms::AsyncCallback * *onComplete*) [inline, virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

destination The destination on which to send the message

message the message to be sent.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2184).

References cms::MessageProducer::send().

6.112.3.11 virtual void activemq::cmsutil::CachedProducer::send (const cms::Destination * *destination*, cms::Message * *message*) [inline, virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live.

Parameters:

destination The destination on which to send the message

message the message to be sent.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2185).

References cms::MessageProducer::send().

6.112.3.12 virtual void activemq::cmsutil::CachedProducer::send (cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*, cms::AsyncCallback * *onComplete*) [inline, virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2185).

References cms::MessageProducer::send().

6.112.3.13 virtual void activemq::cmsutil::CachedProducer::send (cms::Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*) [inline, virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

Parameters:

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2186).

References cms::MessageProducer::send().

6.112.3.14 virtual void activemq::cmsutil::CachedProducer::send (cms::Message * *message*, cms::AsyncCallback * *onComplete*) [inline, virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live. If the AsyncCallback parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the Message or an Error occurs.

Parameters:

message The message to be sent.

onComplete The AsyncCallback instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2186).

References cms::MessageProducer::send().

6.112.3.15 virtual void activemq::cmsutil::CachedProducer::send (cms::Message * *message*) [inline, virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live.

Parameters:

message The message to be sent.

Exceptions:

CMSException - if an internal error occurs while sending the message.

MessageFormatException - if an Invalid Message is given.

InvalidDestinationException - if a client uses this method with a MessageProducer with an invalid destination.

UnsupportedOperationException - if a client uses this method with a MessageProducer that did not specify a destination at creation time.

Implements **cms::MessageProducer** (p. 2187).

References cms::MessageProducer::send().

6.112.3.16 virtual void activemq::cmsutil::CachedProducer::setDeliveryMode (int *mode*) [inline, virtual]

Sets the delivery mode for this Producer.

Parameters:

mode The DeliveryMode

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2187).

References cms::MessageProducer::setDeliveryMode().

6.112.3.17 virtual void activemq::cmsutil::CachedProducer::setDisableMessageID (bool *value*) [inline, virtual]

Sets if Message Ids are disabled for this Producer.

Parameters:

value boolean indicating enable / disable (true / false)

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2188).

References cms::MessageProducer::setDisableMessageID().

6.112.3.18 virtual void activemq::cmsutil::CachedProducer::setDisableMessageTimeStamp (bool *value*) [inline, virtual]

Sets if Message Time Stamps are disabled for this Producer.

Parameters:

value - boolean indicating enable / disable (true / false)

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2188).

References cms::MessageProducer::setDisableMessageTimeStamp().

6.112.3.19 virtual void activemq::cmsutil::CachedProducer::setMessageTransformer (cms::MessageTransformer * *transformer*) [inline, virtual]

Set an MessageTransformer instance that is applied to all **cms::Message** (p. 2077) objects before they are sent on to the CMS bus. The CMS **code** (p. 999) never takes ownership of the MessageTransformer pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the MessageTransformer has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to apply on each **cms** (p. 91)::;MessageSend.

Implements **cms::MessageProducer** (p. 2188).

References cms::MessageProducer::setMessageTransformer().

6.112.3.20 virtual void activemq::cmsutil::CachedProducer::setPriority (int *priority*) [inline, virtual]

Sets the Priority that this Producers sends messages at.

Parameters:

priority int value for Priority level

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2189).

References cms::MessageProducer::setPriority().

6.112.3.21 virtual void activemq::cmsutil::CachedProducer::setTimeToLive (long long *time*) [inline, virtual]

Sets the Time to Live that this Producers sends messages with. This value will be used if the time to live is not specified via the send method.

Parameters:

time default time to live value in milliseconds

Exceptions:

CMSException - if an internal error occurs.

Implements **cms::MessageProducer** (p. 2189).

References cms::MessageProducer::setTimeToLive().

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CachedProducer.h**

6.113 decaf::util::concurrent::Callable< V > Class Template Reference

A task that returns a result and may throw an exception.

`#include <src/main/decaf/util/concurrent/Callable.h>`Inheritance diagram for decaf::util::concurrent::Callable< V >:

Public Member Functions

- virtual ~**Callable** ()
- virtual V **call** ()=0

  Computes a result, or throws an exception if unable to do so.

6.113.1 Detailed Description

template<typename V> class decaf::util::concurrent::Callable< V >

A task that returns a result and may throw an exception. Implementors define a single method with no arguments called call. This interface differs from the Runnable interface in that a **Callable** (p. 882) object can return a result and is allowed to throw an exceptions from its call method.

The **Executors** (p. 1466) class contains utility methods to convert from other common forms to **Callable** (p. 882) classes.

Since:

1.0

6.113.2 Constructor & Destructor Documentation

6.113.2.1 template<typename V> virtual decaf::util::concurrent::Callable< V >::~Callable () [inline, virtual]

6.113.3 Member Function Documentation

6.113.3.1 template<typename V> virtual V decaf::util::concurrent::Callable< V >::call () [pure virtual]

Computes a result, or throws an exception if unable to do so.

Returns:

Computed Result.

Exceptions:

Exception If unable to compute a result.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Callable.h**

6.114 decaf::util::concurrent::CallableType Class Reference

Base class of all **Callable<T>** (p. 882) objects, used to allow identification via type casting.

`#include <src/main/decaf/util/concurrent/Callable.h>`Inheritance diagram for decaf::util::concurrent::CallableType:

Public Member Functions

- virtual ~**CallableType** ()

6.114.1 Detailed Description

Base class of all **Callable<T>** (p. 882) objects, used to allow identification via type casting.

6.114.2 Constructor & Destructor Documentation

6.114.2.1 virtual decaf::util::concurrent::CallableType::~CallableType () [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Callable.h**

6.115 decaf::util::concurrent::ThreadPoolExecutor::CallerRunsPolicy Class Reference

Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute** (p. 3039) this class will attempt to run the task in the Thread that called the execute method unless the executor is shutdown in which case the task is not run and is destroyed.

`#include <src/main/decaf/util/concurrent/ThreadPoolExecutor.h>`Inheritance diagram for decaf::util::concurrent::ThreadPoolExecutor::CallerRunsPolicy:

Public Member Functions

- **CallerRunsPolicy** ()
- virtual ~**CallerRunsPolicy** ()
- virtual void **rejectedExecution** (**decaf::lang::Runnable** *task, **ThreadPoolExecutor** *executer DECAF_UNUSED)

6.115.1 Detailed Description

Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute** (p. 3039) this class will attempt to run the task in the Thread that called the execute method unless the executor is shutdown in which case the task is not run and is destroyed.

Since:

1.0

6.115.2 Constructor & Destructor Documentation

6.115.2.1 decaf::util::concurrent::ThreadPoolExecutor::CallerRunsPolicy::CallerRunsPolicy () `[inline]`

6.115.2.2 virtual decaf::util::concurrent::ThreadPoolExecutor::CallerRunsPolicy::~CallerRunsPolicy () `[inline, virtual]`

6.115.3 Member Function Documentation

6.115.3.1 virtual void decaf::util::concurrent::ThreadPoolExecutor::CallerRunsPolicy::rejectedExecution (decaf::lang::Runnable * *task*, ThreadPoolExecutor *executer *DECAF_UNUSED*) `[inline, virtual]`

References decaf::lang::Runnable::run().

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ThreadPoolExecutor.h**

6.116 decaf::util::concurrent::CancellationException Class Reference

`#include <src/main/decaf/util/concurrent/CancellationException.h>`Inheritance diagram for decaf::util::concurrent::CancellationException:

Public Member Functions

- **CancellationException** ()

  Default Constructor.

- **CancellationException** (const **decaf::lang::Exception** &ex)

  Conversion Constructor from some other Exception.

- **CancellationException** (const **CancellationException** &ex)

  Copy Constructor.

- **CancellationException** (const std::exception *cause)

  Constructor.

- **CancellationException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **CancellationException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **CancellationException** * **clone** () const

  Clones this exception.

- virtual ~**CancellationException** () throw ()

6.116.1 Constructor & Destructor Documentation

6.116.1.1 decaf::util::concurrent::CancellationException::CancellationException ()

Default Constructor.

6.116.1.2 decaf::util::concurrent::CancellationException::CancellationException (const decaf::lang::Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.116.1.3 decaf::util::concurrent::CancellationException::CancellationException (const CancellationException & *ex*)

Copy Constructor.

Parameters:

ex - The Exception to copy in this new instance.

6.116.1.4 decaf::util::concurrent::CancellationException::CancellationException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.116.1.5 decaf::util::concurrent::CancellationException::CancellationException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file - The file name where exception occurs

lineNumber - The line number where the exception occurred.

msg - The message to report

... - list of primitives that are formatted into the message

6.116.1.6 decaf::util::concurrent::CancellationException::CancellationException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file - The file name where exception occurs

lineNumber - The line number where the exception occurred.

cause - The exception that was the cause for this one to be thrown.

msg - The message to report

... - list of primitives that are formatted into the message

6.116.1.7 virtual decaf::util::concurrent::CancellationException::~CancellationException () throw () [virtual]

6.116.2 Member Function Documentation

6.116.2.1 virtual CancellationException* decaf::util::concurrent::CancellationException::clone () const [virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new instance of an exception that is a clone of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**CancellationException.h**

6.117 decaf::security::cert::Certificate Class Reference

Base interface for all identity certificates.

`#include <src/main/decaf/security/cert/Certificate.h>`Inheritance diagram for decaf::security::cert::Certificate:

Public Member Functions

- virtual ~**Certificate** ()
- virtual bool **equals** (const **Certificate** &cert) const =0

  Compares the encoded form of the two certificates.

- virtual void **getEncoded** (std::vector< unsigned char > &output) const =0

  Provides the encoded form of this certificate.

- virtual std::string **getType** () const =0

  Returns the type of this certificate.

- virtual **PublicKey** * **getPublicKey** ()=0

  Gets the public key of this certificate.

- virtual const **PublicKey** * **getPublicKey** () const =0

  Gets the public key of this certificate.

- virtual void **verify** (const **PublicKey** &publicKey) const =0

  Verifies that this certificate was signed with the private key that corresponds to the specified public key.

- virtual void **verify** (const **PublicKey** &publicKey, const std::string &sigProvider) const =0

  Verifies that this certificate was signed with the private key that corresponds to the specified public key.

- virtual std::string **toString** () const =0

  Returns a string representation of this certificate.

6.117.1 Detailed Description

Base interface for all identity certificates.

6.117.2 Constructor & Destructor Documentation

6.117.2.1 virtual decaf::security::cert::Certificate::~Certificate () [inline, virtual]

6.117.3 Member Function Documentation

6.117.3.1 virtual bool decaf::security::cert::Certificate::equals (const Certificate & *cert*) const [pure virtual]

Compares the encoded form of the two certificates.

Parameters:

cert *(p. 123)* The certificate to be tested for equality with this certificate.

Returns:

true if the given certificate is equal to this certificate.

6.117.3.2 virtual void decaf::security::cert::Certificate::getEncoded (std::vector< unsigned char > & *output*) const [pure virtual]

Provides the encoded form of this certificate.

Parameters:

output Receives the encoded form of this certificate.

Exceptions:

CertificateEncodingException *(p. 893)* if an encoding error occurs

6.117.3.3 virtual const PublicKey* decaf::security::cert::Certificate::getPublicKey () const [pure virtual]

Gets the public key of this certificate.

Returns:

the public key

6.117.3.4 virtual PublicKey* decaf::security::cert::Certificate::getPublicKey () [pure virtual]

Gets the public key of this certificate.

Returns:

the public key

6.117.3.5 virtual std::string decaf::security::cert::Certificate::getType () const [pure virtual]

Returns the type of this certificate.

Returns:

the type of this certificate

6.117.3.6 virtual std::string decaf::security::cert::Certificate::toString () const [pure virtual]

Returns a string representation of this certificate.

Returns:

a string representation of this certificate

6.117.3.7 virtual void decaf::security::cert::Certificate::verify (const PublicKey & *publicKey*, const std::string & *sigProvider*) const [pure virtual]

Verifies that this certificate was signed with the private key that corresponds to the specified public key. Uses the verification engine of the specified provider.

Parameters:

publicKey The public key used to carry out the validation.

sigProvider The name of the signature provider

Exceptions:

NoSuchAlgorithmException (p. ***2244***) - on unsupported signature algorithms.

InvalidKeyException (p. ***1763***) - on incorrect key.

NoSuchProviderException (p. ***2250***) - if there's no default provider.

SignatureException (p. ***2741***) - on signature errors.

CertificateException (p. ***896***) - on encoding errors.

6.117.3.8 virtual void decaf::security::cert::Certificate::verify (const PublicKey & *publicKey*) const [pure virtual]

Verifies that this certificate was signed with the private key that corresponds to the specified public key.

Parameters:

publicKey The public key used to carry out the validation.

Exceptions:

NoSuchAlgorithmException (p. ***2244***) - on unsupported signature algorithms.

InvalidKeyException (p. ***1763***) - on incorrect key.

NoSuchProviderException *(*p. *2250)* - if there's no default provider.
SignatureException *(*p. *2741)* - on signature errors.
CertificateException *(*p. *896)* - on encoding errors.

The documentation for this class was generated from the following file:

- src/main/decaf/security/cert/**Certificate.h**

6.118 decaf::security::cert::CertificateEncodingException Class Reference

`#include <src/main/decaf/security/cert/CertificateEncodingException.h>`Inheritance diagram for decaf::security::cert::CertificateEncodingException:

Public Member Functions

- **CertificateEncodingException** ()
  Default Constructor.
- **CertificateEncodingException** (const Exception &ex)
  Conversion Constructor from some other Exception.
- **CertificateEncodingException** (const **CertificateEncodingException** &ex)
  Copy Constructor.
- **CertificateEncodingException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **CertificateEncodingException** (const std::exception *cause)
  Constructor.
- **CertificateEncodingException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occured.
- virtual **CertificateEncodingException** * **clone** () const
  Clones this exception.
- virtual ~**CertificateEncodingException** () throw ()

6.118.1 Constructor & Destructor Documentation

6.118.1.1 decaf::security::cert::CertificateEncodingException::CertificateEncodingException ()

Default Constructor.

6.118.1.2 decaf::security::cert::CertificateEncodingException::CertificateEncodingException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.118.1.3 decaf::security::cert::CertificateEncodingException::CertificateEncodingException (const CertificateEncodingException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.118.1.4 decaf::security::cert::CertificateEncodingException::CertificateEncodingException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.118.1.5 decaf::security::cert::CertificateEncodingException::CertificateEncodingException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.118.1.6 decaf::security::cert::CertificateEncodingException::CertificateEncodingException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occured. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.118.1.7 virtual decaf::security::cert::CertificateEncodingException::~CertificateEncodingException () throw () [virtual]

6.118.2 Member Function Documentation

6.118.2.1 virtual CertificateEncodingException* decaf::security::cert::CertificateEncodingException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::cert::CertificateException** (p. 898).

The documentation for this class was generated from the following file:

- src/main/decaf/security/cert/**CertificateEncodingException.h**

6.119 decaf::security::cert::CertificateException Class Reference

`#include <src/main/decaf/security/cert/CertificateException.h>`Inheritance diagram for decaf::security::cert::CertificateException:

Public Member Functions

- **CertificateException** ()

  Default Constructor.

- **CertificateException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **CertificateException** (const **CertificateException** &ex)

  Copy Constructor.

- **CertificateException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **CertificateException** (const std::exception *cause)

  Constructor.

- **CertificateException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occured.

- virtual **CertificateException** * **clone** () const

  Clones this exception.

- virtual ~**CertificateException** () throw ()

6.119.1 Constructor & Destructor Documentation

6.119.1.1 decaf::security::cert::CertificateException::CertificateException ()

Default Constructor.

6.119.1.2 decaf::security::cert::CertificateException::CertificateException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.119.1.3 decaf::security::cert::CertificateException::CertificateException (const CertificateException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.119.1.4 decaf::security::cert::CertificateException::CertificateException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.119.1.5 decaf::security::cert::CertificateException::CertificateException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.119.1.6 decaf::security::cert::CertificateException::CertificateException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occured. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.119.1.7 virtual decaf::security::cert::CertificateException::~CertificateException () throw () [virtual]

6.119.2 Member Function Documentation

6.119.2.1 virtual CertificateException* decaf::security::cert::CertificateException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::GeneralSecurityException** (p. 1572).

Reimplemented in **decaf::security::cert::CertificateEncodingException** (p. 895), **decaf::security::cert::CertificateExpiredException** (p. 901), **decaf::security::cert::CertificateNotYetValidException** (p. 904), and **decaf::security::cert::CertificateParsingException** (p. 907).

The documentation for this class was generated from the following file:

- src/main/decaf/security/cert/**CertificateException.h**

6.120 decaf::security::cert::CertificateExpiredException Class Reference

`#include <src/main/decaf/security/cert/CertificateExpiredException.h>`Inheritance diagram for decaf::security::cert::CertificateExpiredException:

Public Member Functions

- **CertificateExpiredException** ()
  Default Constructor.
- **CertificateExpiredException** (const Exception &ex)
  Conversion Constructor from some other Exception.
- **CertificateExpiredException** (const **CertificateExpiredException** &ex)
  Copy Constructor.
- **CertificateExpiredException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **CertificateExpiredException** (const std::exception *cause)
  Constructor.
- **CertificateExpiredException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occured.
- virtual **CertificateExpiredException** * **clone** () const
  Clones this exception.
- virtual ~**CertificateExpiredException** () throw ()

6.120.1 Constructor & Destructor Documentation

6.120.1.1 decaf::security::cert::CertificateExpiredException::CertificateExpiredException ()

Default Constructor.

6.120.1.2 decaf::security::cert::CertificateExpiredException::CertificateExpiredException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.120.1.3 decaf::security::cert::CertificateExpiredException::CertificateExpiredException (const CertificateExpiredException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.120.1.4 decaf::security::cert::CertificateExpiredException::CertificateExpiredException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.120.1.5 decaf::security::cert::CertificateExpiredException::CertificateExpiredException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.120.1.6 decaf::security::cert::CertificateExpiredException::CertificateExpiredException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occured. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.120.1.7 virtual decaf::security::cert::CertificateExpiredException::~CertificateExpiredException () throw () [virtual]

6.120.2 Member Function Documentation

6.120.2.1 virtual CertificateExpiredException* decaf::security::cert::CertificateExpiredException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::cert::CertificateException** (p. 898).

The documentation for this class was generated from the following file:

- src/main/decaf/security/cert/**CertificateExpiredException.h**

6.121 decaf::security::cert::CertificateNotYetValidException Class Reference

`#include <src/main/decaf/security/cert/CertificateNotYetValidException.h>`Inheritance diagram for decaf::security::cert::CertificateNotYetValidException:

Public Member Functions

- **CertificateNotYetValidException** ()
  Default Constructor.
- **CertificateNotYetValidException** (const Exception &ex)
  Conversion Constructor from some other Exception.
- **CertificateNotYetValidException** (const **CertificateNotYetValidException** &ex)
  Copy Constructor.
- **CertificateNotYetValidException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **CertificateNotYetValidException** (const std::exception *cause)
  Constructor.
- **CertificateNotYetValidException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occured.
- virtual **CertificateNotYetValidException** * **clone** () const
  Clones this exception.
- virtual ~**CertificateNotYetValidException** () throw ()

6.121.1 Constructor & Destructor Documentation

6.121.1.1 decaf::security::cert::CertificateNotYetValidException::CertificateNotYetValidException ()

Default Constructor.

6.121.1.2 decaf::security::cert::CertificateNotYetValidException::CertificateNotYetValidException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.121.1.3 decaf::security::cert::CertificateNotYetValidException::CertificateNotYetValidException (const CertificateNotYetValidException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.121.1.4 decaf::security::cert::CertificateNotYetValidException::CertificateNotYetValidException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.121.1.5 decaf::security::cert::CertificateNotYetValidException::CertificateNotYetValidException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.121.1.6 decaf::security::cert::CertificateNotYetValidException::CertificateNotYetValidException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occured. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.121.1.7 virtual decaf::security::cert::CertificateNotYetValidException::~CertificateNotYetValidException () throw () [virtual]

6.121.2 Member Function Documentation

6.121.2.1 virtual CertificateNotYetValidException* decaf::security::cert::CertificateNotYetValidException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::cert::CertificateException** (p. 898).

The documentation for this class was generated from the following file:

- src/main/decaf/security/cert/**CertificateNotYetValidException.h**

6.122 decaf::security::cert::CertificateParsingException Class Reference

`#include <src/main/decaf/security/cert/CertificateParsingException.h>`Inheritance diagram for decaf::security::cert::CertificateParsingException:

Public Member Functions

- **CertificateParsingException** ()
  Default Constructor.
- **CertificateParsingException** (const Exception &ex)
  Conversion Constructor from some other Exception.
- **CertificateParsingException** (const **CertificateParsingException** &ex)
  Copy Constructor.
- **CertificateParsingException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **CertificateParsingException** (const std::exception *cause)
  Constructor.
- **CertificateParsingException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occured.
- virtual **CertificateParsingException** * **clone** () const
  Clones this exception.
- virtual ~**CertificateParsingException** () throw ()

6.122.1 Constructor & Destructor Documentation

6.122.1.1 decaf::security::cert::CertificateParsingException::CertificateParsingException ()

Default Constructor.

6.122.1.2 decaf::security::cert::CertificateParsingException::CertificateParsingException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.122.1.3 decaf::security::cert::CertificateParsingException::CertificateParsingException (const CertificateParsingException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.122.1.4 decaf::security::cert::CertificateParsingException::CertificateParsingException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.122.1.5 decaf::security::cert::CertificateParsingException::CertificateParsingException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.122.1.6 decaf::security::cert::CertificateParsingException::CertificateParsingException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occured. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.122.1.7 virtual decaf::security::cert::CertificateParsingException::~CertificateParsingException () throw () [virtual]

6.122.2 Member Function Documentation

6.122.2.1 virtual CertificateParsingException* decaf::security::cert::CertificateParsingException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::cert::CertificateException** (p. 898).

The documentation for this class was generated from the following file:

- src/main/decaf/security/cert/**CertificateParsingException.h**

6.123 decaf::lang::Character Class Reference

`#include <src/main/decaf/lang/Character.h>`Inheritance diagram for decaf::lang::Character:

Public Member Functions

- **Character** (char value)
- virtual int **compareTo** (const **Character** &c) const

  *Compares this **Character** (p. 908) instance with another.*

- virtual bool **operator==** (const **Character** &c) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const **Character** &c) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- virtual int **compareTo** (const char &c) const

  *Compares this **Character** (p. 908) instance with a char type.*

- virtual bool **operator==** (const char &c) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const char &c) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- bool **equals** (const **Character** &c) const
- bool **equals** (const char &c) const
- std::string **toString** () const
- virtual double **doubleValue** () const

  Answers the double value which the receiver represents.

- virtual float **floatValue** () const

  Answers the float value which the receiver represents.

- virtual unsigned char **byteValue** () const

  Answers the byte value which the receiver represents.

- virtual short **shortValue** () const

  Answers the short value which the receiver represents.

- virtual int **intValue** () const

  Answers the int value which the receiver represents.

- virtual long long **longValue** () const

  Answers the long value which the receiver represents.

Static Public Member Functions

- static **Character valueOf** (char value)

  *Returns a **Character** (*p. *908)* *instance representing the specified char value.*

- static bool **isWhitespace** (char c)

  Indicates whether or not the given character is considered whitespace.

- static bool **isDigit** (char c)

  Indicates whether or not the given character is a digit.

- static bool **isLowerCase** (char c)

  Indicates whether or not the given character is a lower case character.

- static bool **isUpperCase** (char c)

  Indicates whether or not the given character is a upper case character.

- static bool **isLetter** (char c)

  Indicates whether or not the given character is a letter.

- static bool **isLetterOrDigit** (char c)

  Indicates whether or not the given character is either a letter or a digit.

- static bool **isISOControl** (char c)

  Answers whether the character is an ISO control character, which is a char that lays in the range of 0 to 1f and 7f to 9f.

- static int **digit** (char c, int radix)

  Returns the numeric value of the character ch in the specified radix.

- static char **toLowerCase** (char value)

  Returns the lower case equivalent for the specified character if the character is an upper case letter.

- static char **toUpperCase** (char value)

  Returns the upper case equivalent for the specified character if the character is a lower case letter.

Static Public Attributes

- static const int **MIN_RADIX** = 2

  The minimum radix available for conversion to and from strings.

- static const int **MAX_RADIX** = 36

  The maximum radix available for conversion to and from strings.

- static const char **MIN_VALUE** = (char)0x7F

  The minimum value that a signed char can take on.

- static const char **MAX_VALUE** = (char)0x80

The maximum value that a signed char can take on.

- static const int **SIZE** = 8

  The size of the primitive charactor in bits.

6.123.1 Constructor & Destructor Documentation

6.123.1.1 decaf::lang::Character::Character (char *value*)

Parameters:

value - char to wrap.

6.123.2 Member Function Documentation

6.123.2.1 virtual unsigned char decaf::lang::Character::byteValue () const [inline, virtual]

Answers the byte value which the receiver represents.

Returns:

int the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2256).

6.123.2.2 virtual int decaf::lang::Character::compareTo (const char & *c*) const [inline, virtual]

Compares this **Character** (p. 908) instance with a char type.

Parameters:

c - the char instance to be compared

Returns:

zero if this object represents the same char value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object repesents a value less than the passed in value.

Implements **decaf::lang::Comparable< char >** (p. 1031).

6.123.2.3 virtual int decaf::lang::Character::compareTo (const Character & *c*) const [inline, virtual]

Compares this **Character** (p. 908) instance with another.

Parameters:

c - the **Character** (p. 908) instance to be compared

Returns:

zero if this object represents the same char value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object repesents a value less than the passed in value.

6.123.2.4 static int decaf::lang::Character::digit (char *c*, int *radix*) [static]

Returns the numeric value of the character ch in the specified radix. If the radix is not in the range MIN_RADIX <= radix <= MAX_RADIX or if the value of ch is not a valid digit in the specified radix, -1 is returned. A character is a valid digit if at least one of the following is true:

* The method isDigit is true of the character and the single-character decomposition is less than the specified radix. In this case the decimal digit value is returned. * The character is one of the uppercase Latin letters 'A' through 'Z' and its **code** (p. 999) is less than radix + 'A' - 10. In this case, ch - 'A' + 10 is returned. * The character is one of the lowercase Latin letters 'a' through 'z' and its **code** (p. 999) is less than radix + 'a' - 10. In this case, ch - 'a' + 10 is returned.

Parameters:

c - the char to be converted

radix - the radix of the number

Returns:

the numeric value of the number represented in the given radix

6.123.2.5 virtual double decaf::lang::Character::doubleValue () const [inline, virtual]

Answers the double value which the receiver represents.

Returns:

double the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.123.2.6 bool decaf::lang::Character::equals (const char & *c*) const [inline, virtual]

Returns:

true if the two Characters have the same value.

Implements **decaf::lang::Comparable< char >** (p. 1032).

6.123.2.7 bool decaf::lang::Character::equals (const Character & *c*) const [inline]

Returns:

true if the two **Character** (p. 908) Objects have the same value.

6.123.2.8 virtual float decaf::lang::Character::floatValue () const [inline, virtual]

Answers the float value which the receiver represents.

Returns:

float the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.123.2.9 virtual int decaf::lang::Character::intValue () const [inline, virtual]

Answers the int value which the receiver represents.

Returns:

int the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.123.2.10 static bool decaf::lang::Character::isDigit (char *c*) [inline, static]

Indicates whether or not the given character is a digit.

6.123.2.11 static bool decaf::lang::Character::isISOControl (char *c*) [inline, static]

Answers whether the character is an ISO control character, which is a char that lays in the range of 0 to 1f and 7f to 9f.

Parameters:

c - the character, including supplementary characters

Returns:

true if the char is an ISO control character

6.123.2.12 static bool decaf::lang::Character::isLetter (char *c*) [inline, static]

Indicates whether or not the given character is a letter.

6.123.2.13 static bool decaf::lang::Character::isLetterOrDigit (char *c*) [inline, static]

Indicates whether or not the given character is either a letter or a digit.

6.123.2.14 static bool decaf::lang::Character::isLowerCase (char *c*) [inline, static]

Indicates whether or not the given character is a lower case character.

6.123.2.15 static bool decaf::lang::Character::isUpperCase (char *c*) [inline, static]

Indicates whether or not the given character is a upper case character.

6.123.2.16 static bool decaf::lang::Character::isWhitespace (char *c*) [inline, static]

Indicates whether or not the given character is considered whitespace.

6.123.2.17 virtual long long decaf::lang::Character::longValue () const [inline, virtual]

Answers the long value which the receiver represents.

Returns:

long the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.123.2.18 virtual bool decaf::lang::Character::operator< (const char & *c*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

c - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< char >** (p. 1032).

6.123.2.19 virtual bool decaf::lang::Character::operator< (const Character & *c*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

c - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.123.2.20 virtual bool decaf::lang::Character::operator== (const char & *c*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

c - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< char >** (p. 1032).

6.123.2.21 virtual bool decaf::lang::Character::operator== (const Character & *c*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

c - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.123.2.22 virtual short decaf::lang::Character::shortValue () const [inline, virtual]

Answers the short value which the receiver represents.

Returns:

int the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2258).

6.123.2.23 static char decaf::lang::Character::toLowerCase (char *value*) [inline, static]

Returns the lower case equivalent for the specified character if the character is an upper case letter. Otherwise, the specified character is returned unchanged.

Parameters:

value the character to convert if needed.

Returns:

if value is an upper case character then its lower case counterpart, otherwise just returns value unchanged.

6.123.2.24 std::string decaf::lang::Character::toString () const

Returns:

this **Character** (p. 908) Object as a **String** (p. 2919) Representation

6.123.2.25 static char decaf::lang::Character::toUpperCase (char *value*) [inline, static]

Returns the upper case equivalent for the specified character if the character is a lower case letter. Otherwise, the specified character is returned unchanged.

Parameters:

value the character to convert to upper case if needed.

Returns:

if value is a lower case character then its upper case counterpart, otherwise just returns value unchanged.

6.123.2.26 static Character decaf::lang::Character::valueOf (char *value*) [inline, static]

Returns a **Character** (p. 908) instance representing the specified char value.

Parameters:

value - the primitive char to wrap.

Returns:

a new Charactor instance that wraps this value.

6.123.3 Field Documentation

6.123.3.1 const int decaf::lang::Character::MAX_RADIX = 36 [static]

The maximum radix available for conversion to and from strings.

6.123.3.2 const char decaf::lang::Character::MAX_VALUE = (char)0x80 [static]

The maximum value that a signed char can take on.

6.123.3.3 const int decaf::lang::Character::MIN_RADIX = 2 [static]

The minimum radix available for conversion to and from strings.

6.123.3.4 const char decaf::lang::Character::MIN_VALUE = (char)0x7F [static]

The minimum value that a signed char can take on.

6.123.3.5 const int decaf::lang::Character::SIZE = 8 [static]

The size of the primitive charactor in bits.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Character.h**

6.124 decaf::internal::nio::CharArrayBuffer Class Reference

`#include <src/main/decaf/internal/nio/CharArrayBuffer.h>`Inheritance diagram for decaf::internal::nio::CharArrayBuffer:

Public Member Functions

- **CharArrayBuffer** (int size, bool **readOnly**=false)

  *Creates a **CharArrayBuffer** (p. 917) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

- **CharArrayBuffer** (char *array, int size, int **offset**, int **length**, bool **readOnly**=false)

  *Creates a **CharArrayBuffer** (p. 917) object that wraps the given array.*

- **CharArrayBuffer** (const **decaf::lang::Pointer**< **ByteArrayAdapter** > &array, int **offset**, int **length**, bool **readOnly**=false)

  Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset.

- **CharArrayBuffer** (const **CharArrayBuffer** &other)

  *Create a **CharArrayBuffer** (p. 917) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.*

- virtual ~**CharArrayBuffer** ()
- virtual char * **array** ()

  Returns the character array that backs this buffer (optional operation).
  Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  *the array that backs this **Buffer** (p. 729).*

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual int **arrayOffset** ()

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  The offset into the backing array where index zero starts.

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual CharBuffer * **asReadOnlyBuffer** () const

Creates a new, read-only char buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.
If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
Returns:

The new, read-only char buffer which the caller then owns.

- virtual CharBuffer & **compact** ()

Compacts this buffer.
*The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.*
The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.
Returns:

*a reference to this **CharBuffer** (p. 928).*
Exceptions:

***ReadOnlyBufferException** (p. 2520) - If this buffer is read-only*

- virtual CharBuffer * **duplicate** ()

Creates a new char buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
The new buffer will be read-only if, and only if, this buffer is read-only.
Returns:

*a new char **Buffer** (p. 729) which the caller owns.*

- virtual char **get** ()

Relative get method.
Reads the character at this buffer's current position, and then increments the position.
Returns:

the char at the current position.
Exceptions:

***BufferUnderflowException** (p. 757) if there no more data to return*

- virtual char **get** (int index) const

Absolute get method.
Reads the char at the given index.
Parameters:

***index** The index in the **Buffer** (p. 729) where the char is to be read.*
Returns:

the char that is located at the given index.

Exceptions:

IndexOutOfBoundsException *if index is not smaller than the buffer's limit or is negative.*

- virtual bool **hasArray** () const

  Tells whether or not this buffer is backed by an accessible char array.
  If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.
  Returns:

  true if, and only if, this buffer is backed by an array and is not read-only

- virtual bool **isReadOnly** () const

  Tells whether or not this buffer is read-only.
  Returns:

  true if, and only if, this buffer is read-only.

- virtual CharBuffer & **put** (char value)

  Writes the given char into this buffer at the current position, and then increments the position.
  Parameters:

  value *The char value to be written.*
  Returns:

  a reference to this buffer.
  Exceptions:

  BufferOverflowException *(p. 754) if this buffer's current position is not smaller than its limit*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual CharBuffer & **put** (int index, char value)

  Writes the given char into this buffer at the given index.
  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data.*
  value *The char to write.*
  Returns:

  a reference to this buffer.
  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or index is negative.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual CharBuffer * **slice** () const

  Creates a new ***CharBuffer*** *(p. 928) whose content is a shared subsequence of this buffer's content.*
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the newly create ***CharBuffer*** *(p. 928) which the caller owns.*

- virtual **lang::CharSequence** * **subSequence** (int start, int end) const

  Creates a new character buffer that represents the specified subsequence of this buffer, relative to the current position.
  The new buffer will share this buffer's content; that is, if the content of this buffer is mutable then modifications to one buffer will cause the other to be modified. The new buffer's capacity will be that of this buffer, its position will be ***position()*** *(p. 733) + start, and its limit will be* ***position()*** *(p. 733) + end. The new* ***Buffer*** *(p. 729) will be read-only if, and only if, this buffer is read-only.*

  Parameters:

  start *The index, relative to the current position, of the first character in the subsequence; must be non-negative and no larger than* ***remaining()*** *(p. 734).*

  end *The index, relative to the current position, of the character following the last character in the subsequence; must be no smaller than start and no larger than* ***remaining()*** *(p. 734).*

  Returns:

  The new character buffer, caller owns.

  Exceptions:

  IndexOutOfBoundsException *if the preconditions on start and end fail.*

Protected Member Functions

- virtual void **setReadOnly** (bool value)

  Sets this ***CharArrayBuffer*** *(p. 917) as Read-Only.*

Protected Attributes

- **decaf::lang::Pointer< ByteArrayAdapter > _array**
- int **offset**
- int **length**
- bool **readOnly**

6.124.1 Constructor & Destructor Documentation

6.124.1.1 decaf::internal::nio::CharArrayBuffer::CharArrayBuffer (int *size*, bool *readOnly* = `false`)

Creates a **CharArrayBuffer** (p. 917) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

size The size of the array, this is the limit we read and write to.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

IllegalArguementException if the capacity value is negative.

6.124.1.2 decaf::internal::nio::CharArrayBuffer::CharArrayBuffer (char * *array*, int *size*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a **CharArrayBuffer** (p. 917) object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The actual array to wrap.

size The size of the given array.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if offset is greater than array capacity.

6.124.1.3 decaf::internal::nio::CharArrayBuffer::CharArrayBuffer (const decaf::lang::Pointer< ByteArrayAdapter > & *array*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset. The capacity and limit of the new **CharArrayBuffer** (p. 917) will be that of the remaining capacity of the passed buffer.

Parameters:

array The ByteArrayAdapter to wrap.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if array is NULL

IndexOutOfBoundsException if offset + length is greater than array size.

6.124.1.4 decaf::internal::nio::CharArrayBuffer::CharArrayBuffer (const CharArrayBuffer & *other*)

Create a **CharArrayBuffer** (p. 917) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.

Parameters:

other The **CharArrayBuffer** (p. 917) this one is to mirror.

6.124.1.5 virtual decaf::internal::nio::CharArrayBuffer::~CharArrayBuffer () [virtual]

6.124.2 Member Function Documentation

6.124.2.1 virtual char* decaf::internal::nio::CharArrayBuffer::array () [virtual]

Returns the character array that backs this buffer (optional operation).

Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::CharBuffer** (p. 932).

6.124.2.2 virtual int decaf::internal::nio::CharArrayBuffer::arrayOffset () [virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::CharBuffer** (p. 933).

6.124.2.3 virtual CharBuffer* decaf::internal::nio::CharArrayBuffer::asReadOnlyBuffer () const [virtual]

Creates a new, read-only char buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow

the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only char buffer which the caller then owns.

Implements **decaf::nio::CharBuffer** (p. 933).

6.124.2.4 virtual CharBuffer& decaf::internal::nio::CharArrayBuffer::compact () [virtual]

Compacts this buffer.

The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **CharBuffer** (p. 928).

Exceptions:

ReadOnlyBufferException *(p. 2520)* - If this buffer is read-only

Implements **decaf::nio::CharBuffer** (p. 934).

6.124.2.5 virtual CharBuffer* decaf::internal::nio::CharArrayBuffer::duplicate () [virtual]

Creates a new char buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new char **Buffer** (p. 729) which the caller owns.

Implements **decaf::nio::CharBuffer** (p. 934).

6.124.2.6 virtual char decaf::internal::nio::CharArrayBuffer::get (int *index*) const [virtual]

Absolute get method.

Reads the char at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the char is to be read.

Returns:

the char that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit or is negative.

Implements **decaf::nio::CharBuffer** (p. 935).

6.124.2.7 virtual char decaf::internal::nio::CharArrayBuffer::get () [virtual]

Relative get method.

Reads the character at this buffer's current position, and then increments the position.

Returns:

the char at the current position.

Exceptions:

BufferUnderflowException *(p. 757)* if there no more data to return

Implements **decaf::nio::CharBuffer** (p. 936).

6.124.2.8 virtual bool decaf::internal::nio::CharArrayBuffer::hasArray () const [inline, virtual]

Tells whether or not this buffer is backed by an accessible char array.

If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only

Implements **decaf::nio::CharBuffer** (p. 936).

6.124.2.9 virtual bool decaf::internal::nio::CharArrayBuffer::isReadOnly () const [inline, virtual]

Tells whether or not this buffer is read-only.

Returns:

true if, and only if, this buffer is read-only.

Implements **decaf::nio::Buffer** (p. 732).

6.124.2.10 virtual CharBuffer& decaf::internal::nio::CharArrayBuffer::put (int *index*, char *value*) [virtual]

Writes the given char into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The char to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException (p. *2520*) if this buffer is read-only.

Implements **decaf::nio::CharBuffer** (p. 937).

6.124.2.11 virtual CharBuffer& decaf::internal::nio::CharArrayBuffer::put (char *value*) [virtual]

Writes the given char into this buffer at the current position, and then increments the position.

Parameters:

value The char value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException (p. *754*) if this buffer's current position is not smaller than its limit

ReadOnlyBufferException (p. *2520*) if this buffer is read-only.

Implements **decaf::nio::CharBuffer** (p. 938).

6.124.2.12 virtual void decaf::internal::nio::CharArrayBuffer::setReadOnly (bool *value*) [inline, protected, virtual]

Sets this **CharArrayBuffer** (p. 917) as Read-Only.

Parameters:

value Boolean value, true if this buffer is to be read-only, false otherwise.

6.124.2.13 virtual CharBuffer* decaf::internal::nio::CharArrayBuffer::slice () const [virtual]

Creates a new **CharBuffer** (p. 928) whose content is a shared subsequence of this buffer's content.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **CharBuffer** (p. 928) which the caller owns.

Implements **decaf::nio::CharBuffer** (p. 940).

6.124.2.14 virtual lang::CharSequence* decaf::internal::nio::CharArrayBuffer::subSequence (int *start*, int *end*) const [virtual]

Creates a new character buffer that represents the specified subsequence of this buffer, relative to the current position.

The new buffer will share this buffer's content; that is, if the content of this buffer is mutable then modifications to one buffer will cause the other to be modified. The new buffer's capacity will be that of this buffer, its position will be **position()** (p. 733) + start, and its limit will be **position()** (p. 733) + end. The new **Buffer** (p. 729) will be read-only if, and only if, this buffer is read-only.

Parameters:

start The index, relative to the current position, of the first character in the subsequence; must be non-negative and no larger than **remaining()** (p. 734).

end The index, relative to the current position, of the character following the last character in the subsequence; must be no smaller than start and no larger than **remaining()** (p. 734).

Returns:

The new character buffer, caller owns.

Exceptions:

IndexOutOfBoundsException if the preconditions on start and end fail.

Implements **decaf::nio::CharBuffer** (p. 940).

6.124.3 Field Documentation

6.124.3.1 decaf::lang::Pointer<ByteArrayAdapter> decaf::internal::nio::CharArrayBuffer::_array [protected]

6.124.3.2 int decaf::internal::nio::CharArrayBuffer::length [protected]

6.124.3.3 int decaf::internal::nio::CharArrayBuffer::offset [protected]

6.124.3.4 bool decaf::internal::nio::CharArrayBuffer::readOnly [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/nio/**CharArrayBuffer.h**

6.125 decaf::nio::CharBuffer Class Reference

This class defines four categories of operations upon character buffers:.

`#include <src/main/decaf/nio/CharBuffer.h>`Inheritance diagram for decaf::nio::CharBuffer:

Public Member Functions

- virtual ~**CharBuffer** ()
- virtual std::string **toString** () const
- **CharBuffer** & **append** (char value)

  Appends the specified character to this buffer.

- **CharBuffer** & **append** (const **lang::CharSequence** *value)

  Appends the specified character sequence to this buffer.

- **CharBuffer** & **append** (const **lang::CharSequence** *value, int start, int end)

  Appends a subsequence of the specified character sequence to this buffer If value is Null the the string "null" is appended to the buffer.

- virtual char * **array** ()=0

  Returns the character array that backs this buffer (optional operation).

- virtual int **arrayOffset** ()=0

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

- virtual **CharBuffer** * **asReadOnlyBuffer** () const =0

  Creates a new, read-only char buffer that shares this buffer's content.

- char **charAt** (int index) const

  Reads the character at the given index relative to the current position.

- virtual **CharBuffer** & **compact** ()=0

  Compacts this buffer.

- virtual **CharBuffer** * **duplicate** ()=0

  Creates a new char buffer that shares this buffer's content.

- virtual char **get** ()=0

  Relative get method.

- virtual char **get** (int index) const =0

  Absolute get method.

- **CharBuffer** & **get** (std::vector< char > buffer)

  Relative bulk get method.

- **CharBuffer** & **get** (char *buffer, int size, int offset, int length)

  Relative bulk get method.

- virtual bool **hasArray** () const =0

  Tells whether or not this buffer is backed by an accessible char array.

- int **length** () const

  Returns the length of this character buffer.

- **CharBuffer** & **put** (**CharBuffer** &src)

  This method transfers the chars remaining in the given source buffer into this buffer.

- **CharBuffer** & **put** (const char *buffer, int size, int offset, int length)

  This method transfers chars into this buffer from the given source array.

- **CharBuffer** & **put** (std::vector< char > &buffer)

  This method transfers the entire content of the given source char array into this buffer.

- virtual **CharBuffer** & **put** (char value)=0

  Writes the given char into this buffer at the current position, and then increments the position.

- virtual **CharBuffer** & **put** (int index, char value)=0

  Writes the given char into this buffer at the given index.

- **CharBuffer** & **put** (std::string &src, int start, int end)

  Relative bulk put method (optional operation).

- **CharBuffer** & **put** (const std::string &src)

  Relative bulk put method (optional operation).

- virtual int **read** (**CharBuffer** *target)

  Attempts to read characters into the specified character buffer.

- virtual **lang::CharSequence** * **subSequence** (int start, int end) const =0

  Creates a new character buffer that represents the specified subsequence of this buffer, relative to the current position.

- virtual **CharBuffer** * **slice** () const =0

  *Creates a new **CharBuffer** (p. 928) whose content is a shared subsequence of this buffer's content.*

- virtual int **compareTo** (const **CharBuffer** &value) const

- virtual bool **equals** (const **CharBuffer** &value) const

- virtual bool **operator==** (const **CharBuffer** &value) const

- virtual bool **operator<** (const **CharBuffer** &value) const

Static Public Member Functions

- static **CharBuffer** * **allocate** (int capacity)

  Allocates a new character buffer.

- static **CharBuffer** * **wrap** (char *array, int size, int offset, int length)

  *Wraps the passed buffer with a new **CharBuffer** (p. 928).*

- static **CharBuffer** * **wrap** (std::vector< char > &buffer)

  *Wraps the passed STL char Vector in a **CharBuffer** (p. 928).*

Protected Member Functions

- **CharBuffer** (int capacity)

  *Creates a **CharBuffer** (p. 928) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

6.125.1 Detailed Description

This class defines four categories of operations upon character buffers:. o Absolute and relative get and put methods that read and write single characters; o Relative bulk get methods that transfer contiguous sequences of characters from this buffer into an array; and o Relative bulk put methods that transfer contiguous sequences of characters from a character array, a string, or some other character buffer into this buffer. o Methods for compacting, duplicating, and slicing a character buffer.

Character buffers can be created either by allocation, which allocates space for the buffer's content, by wrapping an existing character array or string into a buffer, or by creating a view of an existing byte buffer

This class implements the CharSequence interface so that character buffers may be used wherever character sequences are accepted, for example in the regular-expression package decaf.util.regex.

Methods in this class that do not otherwise have a value to return are specified to return the buffer upon which they are invoked. This allows method invocations to be chained. The sequence of statements

cb.put("text/"); cb.put(subtype); cb.put("; charset="); cb.put(enc);

can, for example, be replaced by the single statement

cb.put("text/").put(subtype).put("; charset=").put(enc);

6.125.2 Constructor & Destructor Documentation

6.125.2.1 decaf::nio::CharBuffer::CharBuffer (int *capacity*) [protected]

Creates a **CharBuffer** (p. 928) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

capacity The size of the array, this is the limit we read and write to.

Exceptions:

IllegalArguementException if capacity is negative.

6.125.2.2 virtual decaf::nio::CharBuffer::~CharBuffer () [inline, virtual]

6.125.3 Member Function Documentation

6.125.3.1 static CharBuffer* decaf::nio::CharBuffer::allocate (int *capacity*) [static]

Allocates a new character buffer. The new buffer's position will be zero, its limit will be its capacity, and its mark will be undefined. It will have a backing array, and its array offset will be zero.

Parameters:

capacity The size of the Char buffer in chars (1 byte).

Returns:

the **CharBuffer** (p. 928) that was allocated, caller owns.

Exceptions:

IndexOutOfBoundsException if capacity is negative.

6.125.3.2 CharBuffer& decaf::nio::CharBuffer::append (const lang::CharSequence * *value*, int *start*, int *end*) [virtual]

Appends a subsequence of the specified character sequence to this buffer If value is Null the the string "null" is appended to the buffer.

Parameters:

value The CharSequence to append.

start The index to start appending from.

end The index to append to.

Returns:

a reference to this modified **CharBuffer** (p. 928).

Exceptions:

BufferOverflowException *(p. 754)* if there is no more space
ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.
IndexOutOfBoundsException if start > end, or > length of sequence.

Implements **decaf::lang::Appendable** (p. 574).

6.125.3.3 CharBuffer& decaf::nio::CharBuffer::append (const lang::CharSequence * *value*) [virtual]

Appends the specified character sequence to this buffer. If value is Null the the string "null" is appended to the buffer.

Parameters:

value The CharSequence to append.

Returns:

a reference to this modified **CharBuffer** (p. 928)

Exceptions:

BufferOverflowException *(p. 754)* if there is no more space
ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

Implements **decaf::lang::Appendable** (p. 575).

6.125.3.4 CharBuffer& decaf::nio::CharBuffer::append (char *value*) [virtual]

Appends the specified character to this buffer.

Parameters:

value The char to append.

Returns:

a reference to this modified **CharBuffer** (p. 928).

Exceptions:

BufferOverflowException *(p. 754)* if there is no more space
ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

Implements **decaf::lang::Appendable** (p. 575).

6.125.3.5 virtual char* decaf::nio::CharBuffer::array () [pure virtual]

Returns the character array that backs this buffer (optional operation). Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 922).

6.125.3.6 virtual int decaf::nio::CharBuffer::arrayOffset () [pure virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation). Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 922).

6.125.3.7 virtual CharBuffer* decaf::nio::CharBuffer::asReadOnlyBuffer () const [pure virtual]

Creates a new, read-only char buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only char buffer which the caller then owns.

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 922).

6.125.3.8 char decaf::nio::CharBuffer::charAt (int *index*) const [virtual]

Reads the character at the given index relative to the current position.

Parameters:

index - The index of the character to be read relative to position

Returns:

The character at index **position()** (p. 733) + index.

Exceptions:

IndexOutOfBoundsException if the index + the current position exceeds the size of the buffer or the index is negative.

Implements **decaf::lang::CharSequence** (p. 943).

6.125.3.9 virtual CharBuffer& decaf::nio::CharBuffer::compact () [pure virtual]

Compacts this buffer. The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **CharBuffer** (p. 928).

Exceptions:

ReadOnlyBufferException *(p. 2520)* - If this buffer is read-only

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 923).

6.125.3.10 virtual int decaf::nio::CharBuffer::compareTo (const CharBuffer & *value*) const [virtual]

6.125.3.11 virtual CharBuffer* decaf::nio::CharBuffer::duplicate () [pure virtual]

Creates a new char buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new char **Buffer** (p. 729) which the caller owns.

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 923).

6.125.3.12 virtual bool decaf::nio::CharBuffer::equals (const CharBuffer & *value*) const [virtual]

6.125.3.13 CharBuffer& decaf::nio::CharBuffer::get (char * *buffer*, int *size*, int *offset*, int *length*)

Relative bulk get method. This method transfers chars from this buffer into the given destination array. If there are fewer chars remaining in the buffer than are required to satisfy the request, that is, if length > **remaining()** (p. 734), then no bytes are transferred and a **BufferUnderflowException** (p. 757) is thrown.

Otherwise, this method copies length chars from this buffer into the given array, starting at the current position of this buffer and at the given offset in the array. The position of this buffer is then incremented by length.

Parameters:

buffer The pointer to an allocated buffer to fill.

size The size of the buffer passed.

offset The position in the buffer to start filling.

length The amount of data to put in the passed buffer.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(p. 757)* if there are fewer than length chars remaining in this buffer

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.125.3.14 CharBuffer& decaf::nio::CharBuffer::get (std::vector< char > *buffer*)

Relative bulk get method. This method transfers chars from this buffer into the given destination vector. An invocation of this method of the form src.get(a) behaves in exactly the same way as the invocation. The vector must be sized to the amount of data that is to be read, that is to say, the caller should call buffer.resize(N) before calling this get method.

Returns:

a reference to this **CharBuffer** (p. 928).

Exceptions:

BufferUnderflowException *(p. 757)* if there are fewer than length chars remaining in this buffer.

6.125.3.15 virtual char decaf::nio::CharBuffer::get (int *index*) const [pure virtual]

Absolute get method. Reads the char at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the char is to be read.

Returns:

the char that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit or is negative.

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 924).

6.125.3.16 virtual char decaf::nio::CharBuffer::get () [pure virtual]

Relative get method. Reads the character at this buffer's current position, and then increments the position.

Returns:

the char at the current position.

Exceptions:

BufferUnderflowException (p. ***757***) if there no more data to return

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 924).

6.125.3.17 virtual bool decaf::nio::CharBuffer::hasArray () const [pure virtual]

Tells whether or not this buffer is backed by an accessible char array. If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 924).

6.125.3.18 int decaf::nio::CharBuffer::length () const [inline, virtual]

Returns the length of this character buffer.

Returns:

the length of this buffer from the position to the limit.

Implements **decaf::lang::CharSequence** (p. 944).

6.125.3.19 virtual bool decaf::nio::CharBuffer::operator< (const CharBuffer & *value*) const [virtual]

6.125.3.20 virtual bool decaf::nio::CharBuffer::operator== (const CharBuffer & *value*) const [virtual]

6.125.3.21 CharBuffer& decaf::nio::CharBuffer::put (const std::string & *src*)

Relative bulk put method (optional operation). This method transfers the entire content of the given source string into this buffer. An invocation of this method of the form dst.put(s) behaves in exactly the same way as the invocation.

Parameters:

src The string to copy from.

Returns:

a reference to this **CharBuffer** (p. 928).

Exceptions:

BufferOverflowException *(p. 754)* if this buffer's current position is not.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

6.125.3.22 CharBuffer& decaf::nio::CharBuffer::put (std::string & *src*, int *start*, int *end*)

Relative bulk put method (optional operation). This method transfers characters from the given string into this buffer. If there are more characters to be copied from the string than remain in this buffer, that is, if end - start > **remaining()** (p. 734), then no characters are transferred and a **BufferOverflowException** (p. 754) is thrown.

Returns:

a reference to this buffer

Otherwise, this method copies n = end - start characters from the given string into this buffer, starting at the given start index and at the current position of this buffer. The position of this buffer is then incremented by n.

Parameters:

src The string to copy from.

start The position in src to start from.

end The position in src to stop at.

Returns:

a reference to this **CharBuffer** (p. 928).

Exceptions:

BufferOverflowException *(p. 754)* if this buffer's current position is not

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

6.125.3.23 virtual CharBuffer& decaf::nio::CharBuffer::put (int *index*, char *value*) [pure virtual]

Writes the given char into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The char to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 925).

6.125.3.24 virtual CharBuffer& decaf::nio::CharBuffer::put (char *value*) [pure virtual]

Writes the given char into this buffer at the current position, and then increments the position.

Parameters:

value The char value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if this buffer's current position is not smaller than its limit

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 925).

6.125.3.25 CharBuffer& decaf::nio::CharBuffer::put (std::vector< char > & *buffer*)

This method transfers the entire content of the given source char array into this buffer. This is the same as calling put(&buffer[0], 0, buffer.size().

Parameters:

buffer The buffer whose contents are copied to this **CharBuffer** (p. 928).

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

6.125.3.26 CharBuffer& decaf::nio::CharBuffer::put (const char * *buffer*, int *size*, int *offset*, int *length*)

This method transfers chars into this buffer from the given source array. If there are more chars to be copied from the array than remain in this buffer, that is, if length > **remaining()** (p. 734), then no chars are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies length bytes from the given array into this buffer, starting at the given offset in the array and at the current position of this buffer. The position of this buffer is then incremented by length.

Parameters:

buffer The array from which chars are to be read.

size The size of the buffer passed.

offset The offset within the array of the first char to be read.

length The number of chars to be read from the given array.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.125.3.27 CharBuffer& decaf::nio::CharBuffer::put (CharBuffer & *src*)

This method transfers the chars remaining in the given source buffer into this buffer. If there are more chars remaining in the source buffer than in this buffer, that is, if src.remaining() > **remaining()** (p. 734), then no chars are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies n = src.remaining() chars from the given buffer into this buffer, starting at each buffer's current position. The positions of both buffers are then incremented by n.

Parameters:

src - the buffer to take chars from an place in this one.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer for the remaining chars in the source buffer.

IllegalArgumentException if the source buffer is this buffer.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

6.125.3.28 virtual int decaf::nio::CharBuffer::read (CharBuffer * *target*) [virtual]

Attempts to read characters into the specified character buffer. The buffer is used as a repository of characters as-is: the only changes made are the results of a put operation. No flipping or rewinding of the buffer is performed.

Parameters:

target The buffer to read characters into

Returns:

The number of characters added to the buffer, or string::npos if this source of characters is at its end

Exceptions:

NullPointerException if target is Null.

IllegalArgumentException if target is this **CharBuffer** (p. 928).

ReadOnlyBufferException *(p. 2520)* if this buffer is in read-only mode.

6.125.3.29 virtual CharBuffer* decaf::nio::CharBuffer::slice () const [pure virtual]

Creates a new **CharBuffer** (p. 928) whose content is a shared subsequence of this buffer's content. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **CharBuffer** (p. 928) which the caller owns.

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 926).

6.125.3.30 virtual lang::CharSequence* decaf::nio::CharBuffer::subSequence (int *start*, int *end*) const [pure virtual]

Creates a new character buffer that represents the specified subsequence of this buffer, relative to the current position. The new buffer will share this buffer's content; that is, if the content of this buffer is mutable then modifications to one buffer will cause the other to be modified. The new buffer's capacity will be that of this buffer, its position will be **position()** (p. 733) + start, and its limit will be **position()** (p. 733) + end. The new **Buffer** (p. 729) will be read-only if, and only if, this buffer is read-only.

Parameters:

start The index, relative to the current position, of the first character in the subsequence; must be non-negative and no larger than **remaining()** (p. 734).

end The index, relative to the current position, of the character following the last character in the subsequence; must be no smaller than start and no larger than **remaining()** (p. 734).

Returns:

The new character buffer, caller owns.

Exceptions:

IndexOutOfBoundsException if the preconditions on start and end fail.

Implements **decaf::lang::CharSequence** (p. 944).

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 926).

6.125.3.31 virtual std::string decaf::nio::CharBuffer::toString () const [virtual]

Returns:

a std::string describing this object

Implements **decaf::lang::CharSequence** (p. 944).

6.125.3.32 static CharBuffer* decaf::nio::CharBuffer::wrap (std::vector< char > & *buffer*) [static]

Wraps the passed STL char Vector in a **CharBuffer** (p. 928). The new buffer will be backed by the given char array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new **CharBuffer** (p. 928) that is backed by buffer, caller owns.

6.125.3.33 static CharBuffer* decaf::nio::CharBuffer::wrap (char * *array*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new **CharBuffer** (p. 928). The new buffer will be backed by the given char array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

array The array that will back the new buffer.

size The size of the array passed in.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new **CharBuffer** (p. 928) that is backed by buffer, caller owns.

Exceptions:

NullPointerException if the array pointer is Null.

IndexOutOfBoundsException if capacity is negative.

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**CharBuffer.h**

6.126 decaf::lang::CharSequence Class Reference

A **CharSequence** (p. 943) is a readable sequence of char values.

`#include <src/main/decaf/lang/CharSequence.h>`Inheritance diagram for decaf::lang::CharSequence:

Public Member Functions

- virtual ~**CharSequence** ()
- virtual int **length** () const =0
- virtual char **charAt** (int index) const =0

  Returns the Char at the specified index so long as the index is not greater than the length of the sequence.

- virtual **CharSequence** * **subSequence** (int start, int end) const =0

  *Returns a new **CharSequence** (p. 943) that is a subsequence of this sequence.*

- virtual std::string **toString** () const =0

6.126.1 Detailed Description

A **CharSequence** (p. 943) is a readable sequence of char values. This interface provides uniform, read-only access to many different kinds of char sequences.

This interface does not define that a **CharSequence** (p. 943) should implement comparable, it is therefore up to the dervied classes that implement this interface to define equality, which implies that comparison of two CharSequences does not have a contract on equality.

6.126.2 Constructor & Destructor Documentation

6.126.2.1 virtual decaf::lang::CharSequence::~CharSequence () [virtual]

6.126.3 Member Function Documentation

6.126.3.1 virtual char decaf::lang::CharSequence::charAt (int *index*) const [pure virtual]

Returns the Char at the specified index so long as the index is not greater than the length of the sequence.

Parameters:

index The position to return the char at.

Returns:

the char at the given position.

Exceptions:

IndexOutOfBoundsException if index is > than **length()** (p. 944) or negative

Implemented in **decaf::lang::String** (p. 2922), and **decaf::nio::CharBuffer** (p. 933).

6.126.3.2 virtual int decaf::lang::CharSequence::length () const [pure virtual]

Returns:

the length of the underlying character sequence.

Implemented in **decaf::lang::String** (p. 2922), and **decaf::nio::CharBuffer** (p. 936).

6.126.3.3 virtual CharSequence* decaf::lang::CharSequence::subSequence (int *start*, int *end*) const [pure virtual]

Returns a new **CharSequence** (p. 943) that is a subsequence of this sequence. The subsequence starts with the char value at the specified index and ends with the char value at index end - 1. The length (in chars) of the returned sequence is end - start, so if start == end then an empty sequence is returned.

Parameters:

start The start index, inclusive.

end The end index, exclusive.

Returns:

a new **CharSequence** (p. 943)

Exceptions:

IndexOutOfBoundsException if start or end > **length()** (p. 944) or start or end are negative.

Implemented in **decaf::internal::nio::CharArrayBuffer** (p. 926), **decaf::lang::String** (p. 2922), and **decaf::nio::CharBuffer** (p. 940).

6.126.3.4 virtual std::string decaf::lang::CharSequence::toString () const [pure virtual]

Returns:

the string representation of this **CharSequence** (p. 943)

Implemented in **decaf::lang::String** (p. 2923), and **decaf::nio::CharBuffer** (p. 941).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**CharSequence.h**

6.127 decaf::util::zip::CheckedInputStream Class Reference

An implementation of a FilterInputStream that will maintain a **Checksum** (p. 950) of the bytes read, the **Checksum** (p. 950) can then be used to verify the integrity of the input stream.

`#include <src/main/decaf/util/zip/CheckedInputStream.h>`Inheritance diagram for decaf::util::zip::CheckedInputStream:

Public Member Functions

- **CheckedInputStream** (InputStream *__inputStream__, **Checksum** *sum, bool **own**=false)

  *Create a new instance of a **CheckedInputStream** (p. 945).*

- virtual ~**CheckedInputStream** ()
- **Checksum** * **getChecksum** () const

  *Returns a Pointer to the **Checksum** (p. 950) that is in use by this **CheckedInputStream** (p. 945).*

- virtual long long **skip** (long long num)

  Skips over and discards n bytes of data from this input stream.
  *The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned. The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.*
  Parameters:

  num *The number of bytes to skip.*
  Returns:

  total bytes skipped
  Exceptions:

  ***IOException** (p. 1774) if an I/O error occurs.*
  ***UnsupportedOperationException** if the concrete stream class does not support skipping bytes.*

Protected Member Functions

- virtual int **doReadByte** ()
- virtual int **doReadArrayBounded** (unsigned char *buffer, int size, int offset, int length)

6.127.1 Detailed Description

An implementation of a FilterInputStream that will maintain a **Checksum** (p. 950) of the bytes read, the **Checksum** (p. 950) can then be used to verify the integrity of the input stream.

Since:

1.0

6.127.2 Constructor & Destructor Documentation

6.127.2.1 decaf::util::zip::CheckedInputStream::CheckedInputStream (InputStream * *inputStream*, Checksum * *sum*, bool *own* = false)

Create a new instance of a **CheckedInputStream** (p. 945).

Parameters:

inputStream The InputStream instance to Wrap.

sum The **Checksum** (p. 950) instance to use (does not take ownership of the Pointer).

own Indicates if this filer should take ownership of the InputStream.

Exceptions:

NullPointerException if the **Checksum** (p. 950) pointer is NULL.

6.127.2.2 virtual decaf::util::zip::CheckedInputStream::~CheckedInputStream () [virtual]

6.127.3 Member Function Documentation

6.127.3.1 virtual int decaf::util::zip::CheckedInputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.127.3.2 virtual int decaf::util::zip::CheckedInputStream::doReadByte () [protected, virtual]

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.127.3.3 Checksum* decaf::util::zip::CheckedInputStream::getChecksum () const [inline]

Returns a Pointer to the **Checksum** (p. 950) that is in use by this **CheckedInputStream** (p. 945).

Returns:

the pointer to the **Checksum** (p. 950) instance that is in use by this object.

6.127.3.4 virtual long long decaf::util::zip::CheckedInputStream::skip (long long *num*) [virtual]

Skips over and discards n bytes of data from this input stream.

The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

Adds the skipped bytes into the **Checksum** (p. 950).

Reimplemented from **decaf::io::FilterInputStream** (p. 1513).

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**CheckedInputStream.h**

6.128 decaf::util::zip::CheckedOutputStream Class Reference

An implementation of a FilterOutputStream that will maintain a **Checksum** (p. 950) of the bytes written, the **Checksum** (p. 950) can then be used to verify the integrity of the output stream.

`#include <src/main/decaf/util/zip/CheckedOutputStream.h>`Inheritance diagram for decaf::util::zip::CheckedOutputStream:

Public Member Functions

- **CheckedOutputStream** (**decaf::io::OutputStream** *outputStream, **Checksum** *sum, bool **own**=false)

  *Create a new instance of a **CheckedOutputStream** (p. 948).*

- virtual ~**CheckedOutputStream** ()
- **Checksum** * **getChecksum** () const

Protected Member Functions

- virtual void **doWriteByte** (unsigned char value)
- virtual void **doWriteArrayBounded** (const unsigned char *buffer, int size, int offset, int length)

6.128.1 Detailed Description

An implementation of a FilterOutputStream that will maintain a **Checksum** (p. 950) of the bytes written, the **Checksum** (p. 950) can then be used to verify the integrity of the output stream.

Since:

1.0

6.128.2 Constructor & Destructor Documentation

6.128.2.1 decaf::util::zip::CheckedOutputStream::CheckedOutputStream (decaf::io::OutputStream * *outputStream*, Checksum * *sum*, bool *own* = false)

Create a new instance of a **CheckedOutputStream** (p. 948).

Parameters:

outputStream The OutputStream instance to Wrap.

sum The **Checksum** (p. 950) instance to use (does not take ownership of the Pointer).

own Indicates if this filer should take ownership of the InputStream.

Exceptions:

NullPointerException if the **Checksum** (p. 950) pointer is NULL.

6.128.2.2 virtual decaf::util::zip::CheckedOutputStream::~CheckedOutputStream () [virtual]

6.128.3 Member Function Documentation

6.128.3.1 virtual void decaf::util::zip::CheckedOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

6.128.3.2 virtual void decaf::util::zip::CheckedOutputStream::doWriteByte (unsigned char *value*) [protected, virtual]

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

6.128.3.3 Checksum* decaf::util::zip::CheckedOutputStream::getChecksum () const [inline]

Returns:

a pointer to the **Checksum** (p. 950) instance in use by this object.

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**CheckedOutputStream.h**

6.129 decaf::util::zip::Checksum Class Reference

An interface used to represent **Checksum** (p. 950) values in the Zip package.

`#include <src/main/decaf/util/zip/Checksum.h>`Inheritance diagram for decaf::util::zip::Checksum:

Public Member Functions

- virtual ~**Checksum** ()
- virtual long long **getValue** () const =0
- virtual void **reset** ()=0

  Reset the checksum to its initial value.

- virtual void **update** (const std::vector< unsigned char > &buffer)=0

  Updates the current checksum with the specified vector of bytes.

- virtual void **update** (const std::vector< unsigned char > &buffer, int offset, int length)=0

  Updates the current checksum with the specified array of bytes.

- virtual void **update** (const unsigned char *buffer, int size, int offset, int length)=0

  Updates the current checksum with the specified array of bytes.

- virtual void **update** (int byte)=0

  Updates the current checksum with the specified byte value.

6.129.1 Detailed Description

An interface used to represent **Checksum** (p. 950) values in the Zip package.

Since:

1.0

6.129.2 Constructor & Destructor Documentation

6.129.2.1 virtual decaf::util::zip::Checksum::~Checksum () [virtual]

6.129.3 Member Function Documentation

6.129.3.1 virtual long long decaf::util::zip::Checksum::getValue () const [pure virtual]

Returns:

the current checksum value.

Implemented in **decaf::util::zip::Adler32** (p. 547), and **decaf::util::zip::CRC32** (p. 1228).

6.129.3.2 virtual void decaf::util::zip::Checksum::reset () [pure virtual]

Reset the checksum to its initial value.

Implemented in **decaf::util::zip::Adler32** (p. 548), and **decaf::util::zip::CRC32** (p. 1229).

6.129.3.3 virtual void decaf::util::zip::Checksum::update (int *byte*) [pure virtual]

Updates the current checksum with the specified byte value.

Parameters:

byte The byte value to update the current **Checksum** (p. 950) with (0..255).

Implemented in **decaf::util::zip::Adler32** (p. 548), and **decaf::util::zip::CRC32** (p. 1229).

6.129.3.4 virtual void decaf::util::zip::Checksum::update (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [pure virtual]

Updates the current checksum with the specified array of bytes.

Parameters:

buffer The buffer to read the updated bytes from.

size The size of the passed buffer.

offset The position in the buffer to start reading.

length The amount of data to read from the byte buffer.

Exceptions:

NullPointerException if the passed buffer is NULL.

IndexOutOfBoundsException if offset + length > size of the buffer.

Implemented in **decaf::util::zip::Adler32** (p. 548), and **decaf::util::zip::CRC32** (p. 1229).

6.129.3.5 virtual void decaf::util::zip::Checksum::update (const std::vector< unsigned char > & *buffer*, int *offset*, int *length*) [pure virtual]

Updates the current checksum with the specified array of bytes.

Parameters:

buffer The buffer to read the updated bytes from.

offset The position in the buffer to start reading.

length The amount of data to read from the byte buffer.

Exceptions:

IndexOutOfBoundsException if offset + length > size of the buffer.

Implemented in **decaf::util::zip::Adler32** (p. 548), and **decaf::util::zip::CRC32** (p. 1229).

6.129.3.6 virtual void decaf::util::zip::Checksum::update (const std::vector< unsigned char > & *buffer*) [pure virtual]

Updates the current checksum with the specified vector of bytes.

Parameters:

buffer The buffer to read the updated bytes from.

Implemented in **decaf::util::zip::Adler32** (p. 549), and **decaf::util::zip::CRC32** (p. 1230).

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**Checksum.h**

6.130 decaf::lang::exceptions::ClassCastException Class Reference

`#include <src/main/decaf/lang/exceptions/ClassCastException.h>`Inheritance diagram for decaf::lang::exceptions::ClassCastException:

Public Member Functions

- **ClassCastException** ()

  Default Constructor.

- **ClassCastException** (const **Exception** &ex)

  Conversion Constructor from some other ***Exception*** *(*p. *1445**).*

- **ClassCastException** (const **ClassCastException** &ex)

  Copy Constructor.

- **ClassCastException** (const std::exception *cause)

  Constructor.

- **ClassCastException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **ClassCastException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **ClassCastException** * **clone** () const

  Clones this exception.

- virtual ~**ClassCastException** () throw ()

6.130.1 Constructor & Destructor Documentation

6.130.1.1 decaf::lang::exceptions::ClassCastException::ClassCastException ()

Default Constructor.

6.130.1.2 decaf::lang::exceptions::ClassCastException::ClassCastException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.130.1.3 decaf::lang::exceptions::ClassCastException::ClassCastException (const ClassCastException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.130.1.4 decaf::lang::exceptions::ClassCastException::ClassCastException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.130.1.5 decaf::lang::exceptions::ClassCastException::ClassCastException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.130.1.6 decaf::lang::exceptions::ClassCastException::ClassCastException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.130.1.7 virtual decaf::lang::exceptions::ClassCastException::~ClassCastException () throw () [virtual]

6.130.2 Member Function Documentation

6.130.2.1 virtual ClassCastException* decaf::lang::exceptions::ClassCastException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**ClassCastException.h**

6.131 decaf::lang::exceptions::CloneNotSupportedException Class Reference

`#include <src/main/decaf/lang/exceptions/CloneNotSupportedException.h>`Inheritance diagram for decaf::lang::exceptions::CloneNotSupportedException:

Public Member Functions

- **CloneNotSupportedException** ()
  Default Constructor.
- **CloneNotSupportedException** (const **Exception** &ex)
  Conversion Constructor from some other ***Exception*** *(p. 1445).*
- **CloneNotSupportedException** (const **CloneNotSupportedException** &ex)
  Copy Constructor.
- **CloneNotSupportedException** (const std::exception *cause)
  Constructor.
- **CloneNotSupportedException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **CloneNotSupportedException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **CloneNotSupportedException** * **clone** () const
  Clones this exception.
- virtual ~**CloneNotSupportedException** () throw ()

6.131.1 Constructor & Destructor Documentation

6.131.1.1 decaf::lang::exceptions::CloneNotSupportedException::CloneNotSupportedException ()

Default Constructor.

6.131.1.2 decaf::lang::exceptions::CloneNotSupportedException::CloneNotSupportedException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.131.1.3 decaf::lang::exceptions::CloneNotSupportedException::CloneNotSupportedException (const CloneNotSupportedException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.131.1.4 decaf::lang::exceptions::CloneNotSupportedException::CloneNotSupportedException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.131.1.5 decaf::lang::exceptions::CloneNotSupportedException::CloneNotSupportedException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.131.1.6 decaf::lang::exceptions::CloneNotSupportedException::CloneNotSupportedException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.131.1.7 virtual decaf::lang::exceptions::CloneNotSupportedException::~CloneNotSupportedException () throw () [virtual]

6.131.2 Member Function Documentation

6.131.2.1 virtual CloneNotSupportedException* decaf::lang::exceptions::CloneNotSupportedException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**CloneNotSupportedException.h**

6.132 cms::Closeable Class Reference

Interface for a class that implements the close method.

`#include <src/main/cms/Closeable.h>`Inheritance diagram for cms::Closeable:

Public Member Functions

- virtual ~**Closeable** ()
- virtual void **close** ()=0

  Closes this object and deallocates the appropriate resources.

6.132.1 Detailed Description

Interface for a class that implements the close method. A class that implements this interface should release all resources upon the close call and should throw an exception from any methods that require those resources after they have been closed.

Since:

1.0

6.132.2 Constructor & Destructor Documentation

6.132.2.1 virtual cms::Closeable::~Closeable () [virtual]

6.132.3 Member Function Documentation

6.132.3.1 virtual void cms::Closeable::close () [pure virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

CMSException *(*p. *973)* - If an error occurs while the resource is being closed.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 866), **activemq::cmsutil::CachedProducer** (p. 873), **activemq::cmsutil::PooledSession** (p. 2367), **activemq::commands::ActiveMQTempDestination** (p. 488), **activemq::core::ActiveMQConnection** (p. 243), **activemq::core::ActiveMQConsumer** (p. 297), **activemq::core::ActiveMQProducer** (p. 389), **activemq::core::ActiveMQQueueBrowser** (p. 420), **activemq::core::ActiveMQSession** (p. 429), **activemq::core::kernels::ActiveMQConsumerKernel** (p. 308), **activemq::core::kernels::ActiveMQProducerKernel** (p. 400), **activemq::core::kernels::ActiveMQSessionKernel** (p. 450), **cms::Connection** (p. 1084), and **cms::Session** (p. 2668).

The documentation for this class was generated from the following file:

- src/main/cms/**Closeable.h**

6.133 decaf::io::Closeable Class Reference

Interface for a class that implements the close method.

`#include <src/main/decaf/io/Closeable.h>`Inheritance diagram for decaf::io::Closeable:

Public Member Functions

- virtual ~**Closeable** ()
- virtual void **close** ()=0

  Closes this object and deallocates the appropriate resources.

6.133.1 Detailed Description

Interface for a class that implements the close method.

6.133.2 Constructor & Destructor Documentation

6.133.2.1 virtual decaf::io::Closeable::~Closeable () [virtual]

6.133.3 Member Function Documentation

6.133.3.1 virtual void decaf::io::Closeable::close () [pure virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

IOException *(*p. *1774**)* if an error occurs while closing.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1481), **activemq::transport::IOTransport** (p. 1780), **activemq::transport::mock::MockTransport** (p. 2211), **activemq::transport::TransportFilter** (p. 3123), **decaf::internal::io::StandardErrorOutputStream** (p. 2830), **decaf::internal::io::StandardOutputStream** (p. 2834), **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2285), **decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream** (p. 2305), **decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream** (p. 2308), **decaf::internal::net::tcp::TcpSocketInputStream** (p. 2985), **decaf::internal::net::tcp::TcpSocketOutputStream** (p. 2988), **decaf::io::BlockingByteArrayInputStream** (p. 682), **decaf::io::BufferedInputStream** (p. 738), **decaf::io::FilterInputStream** (p. 1510), **decaf::io::FilterOutputStream** (p. 1515), **decaf::io::InputStream** (p. 1696), **decaf::io::InputStreamReader** (p. 1705), **decaf::io::OutputStream** (p. 2334), **decaf::io::OutputStreamWriter** (p. 2341), **decaf::net::Socket** (p. 2760), **decaf::util::logging::ConsoleHandler** (p. 1147), **decaf::util::logging::StreamHandler** (p. 2905), **decaf::util::zip::DeflaterOutputStream** (p. 1355), and **decaf::util::zip::InflaterInputStream** (p. 1690).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**Closeable.h**

6.134 activemq::transport::failover::CloseTransportsTask Class Reference

`#include <src/main/activemq/transport/failover/CloseTransportsTask.h>`Inheritance diagram for activemq::transport::failover::CloseTransportsTask:

Public Member Functions

- **CloseTransportsTask** ()
- virtual ~**CloseTransportsTask** ()
- void **add** (const **Pointer**< **Transport** > transport)

  *Add a new **Transport** (p. 3109) to close.*

- virtual bool **isPending** () const

  This Task is pending if there are transports in the Queue that need to be closed.

- virtual bool **iterate** ()

  Return true until all transports have been closed and removed from the queue.

6.134.1 Constructor & Destructor Documentation

6.134.1.1 activemq::transport::failover::CloseTransportsTask::CloseTransportsTask ()

6.134.1.2 virtual activemq::transport::failover::CloseTransportsTask::~CloseTransportsTask () `[virtual]`

6.134.2 Member Function Documentation

6.134.2.1 void activemq::transport::failover::CloseTransportsTask::add (const Pointer< Transport > *transport*)

Add a new **Transport** (p. 3109) to close.

6.134.2.2 virtual bool activemq::transport::failover::CloseTransportsTask::isPending () const `[virtual]`

This Task is pending if there are transports in the Queue that need to be closed.

Returns:

true if there is a **transport** (p. 72) in the queue that needs closed.

Implements **activemq::threads::CompositeTask** (p. 1039).

6.134.2.3 virtual bool activemq::transport::failover::CloseTransportsTask::iterate () [virtual]

Return true until all transports have been closed and removed from the queue.

Implements **activemq::threads::Task** (p. 2973).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/failover/**CloseTransportsTask.h**

6.135 activemq::cmsutil::CmsAccessor Class Reference

Base class for **activemq.cmsutil.CmsTemplate** (p. 986) and other CMS-accessing gateway helpers, defining common properties such as the CMS **cms.ConnectionFactory** (p. 1108) to operate on.

`#include <src/main/activemq/cmsutil/CmsAccessor.h>`Inheritance diagram for activemq::cmsutil::CmsAccessor:

Public Member Functions

- **CmsAccessor** ()
- virtual ~**CmsAccessor** ()
- virtual **ResourceLifecycleManager** * **getResourceLifecycleManager** ()
- virtual const **ResourceLifecycleManager** * **getResourceLifecycleManager** () const
- virtual void **setConnectionFactory** (**cms::ConnectionFactory** *connectionFactory)

  Set the ConnectionFactory to use for obtaining CMS Connections.

- virtual const **cms::ConnectionFactory** * **getConnectionFactory** () const

  Return the ConnectionFactory that this accessor uses for obtaining CMS Connections.

- virtual **cms::ConnectionFactory** * **getConnectionFactory** ()

  Return the ConnectionFactory that this accessor uses for obtaining CMS Connections.

- virtual void **setSessionAcknowledgeMode** (**cms::Session::AcknowledgeMode** sessionAcknowledgeMode)

  Set the CMS acknowledgment mode that is used when creating a CMS Session to send a message.

- virtual **cms::Session::AcknowledgeMode** **getSessionAcknowledgeMode** () const

  Return the acknowledgment mode for CMS sessions.

Protected Member Functions

- **CmsAccessor** (const **CmsAccessor** &)
- **CmsAccessor** & **operator**= (const **CmsAccessor** &)
- virtual void **init** ()

  Initializes this object and prepares it for use.

- virtual void **destroy** ()

  Shuts down this object and destroys any allocated resources.

- virtual **cms::Connection** * **createConnection** ()

  Create a CMS Connection via this template's ConnectionFactory.

- virtual **cms::Session** * **createSession** (**cms::Connection** *con)

  Create a CMS Session for the given Connection.

- virtual void **checkConnectionFactory** ()
  Verifies that the connection factory is valid.

6.135.1 Detailed Description

Base class for **activemq.cmsutil.CmsTemplate** (p. 986) and other CMS-accessing gateway helpers, defining common properties such as the CMS **cms.ConnectionFactory** (p. 1108) to operate on. The subclass **activemq.cmsutil.CmsDestinationAccessor** (p. 970) adds further, destination-related properties.

Not intended to be used directly.

See also:

activemq.cmsutil.CmsDestinationAccessor (p. 970)
activemq.cmsutil.CmsTemplate (p. 986)

6.135.2 Constructor & Destructor Documentation

6.135.2.1 activemq::cmsutil::CmsAccessor::CmsAccessor (const CmsAccessor &) [protected]

6.135.2.2 activemq::cmsutil::CmsAccessor::CmsAccessor ()

6.135.2.3 virtual activemq::cmsutil::CmsAccessor::~CmsAccessor () [virtual]

6.135.3 Member Function Documentation

6.135.3.1 virtual void activemq::cmsutil::CmsAccessor::checkConnectionFactory () [protected, virtual]

Verifies that the connection factory is valid.

Exceptions:

IllegalStateException if this object has not been initialized.

6.135.3.2 virtual cms::Connection* activemq::cmsutil::CmsAccessor::createConnection () [protected, virtual]

Create a CMS Connection via this template's ConnectionFactory.

Returns:

the new CMS Connection

Exceptions:

CMSException if thrown by CMS API methods

IllegalStateException if this object has not been initialized.

6.135.3.3 virtual cms::Session* activemq::cmsutil::CmsAccessor::createSession (cms::Connection * *con*) [protected, virtual]

Create a CMS Session for the given Connection.

Parameters:

con The CMS Connection to create a Session for

Returns:

the new CMS Session

Exceptions:

CMSException if thrown by CMS API methods

IllegalStateException if this object has not been initialized.

6.135.3.4 virtual void activemq::cmsutil::CmsAccessor::destroy () [inline, protected, virtual]

Shuts down this object and destroys any allocated resources.

Exceptions:

CMSException if an error occurs during destruction.

IllegalStateException if this object has already been destroyed.

Reimplemented in **activemq::cmsutil::CmsDestinationAccessor** (p. 971), and **activemq::cmsutil::CmsTemplate** (p. 989).

6.135.3.5 virtual cms::ConnectionFactory* activemq::cmsutil::CmsAccessor::getConnectionFactory () [inline, virtual]

Return the ConnectionFactory that this accessor uses for obtaining CMS Connections.

6.135.3.6 virtual const cms::ConnectionFactory* activemq::cmsutil::CmsAccessor::getConnectionFactory () const [inline, virtual]

Return the ConnectionFactory that this accessor uses for obtaining CMS Connections.

6.135.3.7 virtual const ResourceLifecycleManager* activemq::cmsutil::CmsAccessor::getResourceLifecycleManager () const [inline, virtual]

6.135.3.8 virtual ResourceLifecycleManager* activemq::cmsutil::CmsAccessor::getResourceLifecycleManager () [inline, virtual]

6.135.3.9 virtual cms::Session::AcknowledgeMode activemq::cmsutil::CmsAccessor::getSessionAcknowledgeMode () const [inline, virtual]

Return the acknowledgment mode for CMS sessions.

Returns:

the acknowledgment mode applied by this accessor

6.135.3.10 virtual void activemq::cmsutil::CmsAccessor::init () [protected, virtual]

Initializes this object and prepares it for use. This should be called before any other methods are called. This version does nothing.

Exceptions:

CMSException if an error occurs during initialization.

IllegalStateException if this object has already been initialized.

Reimplemented in **activemq::cmsutil::CmsDestinationAccessor** (p. 971), and **activemq::cmsutil::CmsTemplate** (p. 992).

6.135.3.11 CmsAccessor& activemq::cmsutil::CmsAccessor::operator= (const CmsAccessor &) [protected]

6.135.3.12 virtual void activemq::cmsutil::CmsAccessor::setConnectionFactory (cms::ConnectionFactory * *connectionFactory*) [inline, virtual]

Set the ConnectionFactory to use for obtaining CMS Connections.

6.135.3.13 virtual void activemq::cmsutil::CmsAccessor::setSessionAcknowledgeMode (cms::Session::AcknowledgeMode *sessionAcknowledgeMode*) [inline, virtual]

Set the CMS acknowledgment mode that is used when creating a CMS Session to send a message. Default is `AUTO_ACKNOWLEDGE`.

Parameters:

sessionAcknowledgeMode The acknowledgment mode to assign to the Session.

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CmsAccessor.h**

6.136 activemq::cmsutil::CmsDestinationAccessor Class Reference

Extends the `CmsAccessor (p. 965)` to add support for resolving destination names.

`#include <src/main/activemq/cmsutil/CmsDestinationAccessor.h>`Inheritance diagram for activemq::cmsutil::CmsDestinationAccessor:

Public Member Functions

- **CmsDestinationAccessor** ()
- virtual ~**CmsDestinationAccessor** ()
- virtual bool **isPubSubDomain** () const
- virtual void **setPubSubDomain** (bool pubSubDomain)
- virtual **DestinationResolver** * **getDestinationResolver** ()
- virtual const **DestinationResolver** * **getDestinationResolver** () const
- virtual void **setDestinationResolver** (**DestinationResolver** *destRes)

Protected Member Functions

- virtual void **init** ()

  Initializes this object and prepares it for use.

- virtual void **destroy** ()

  Shuts down this object and destroys any allocated resources.

- virtual **cms::Destination** * **resolveDestinationName** (**cms::Session** *session, const std::string &destName)
- virtual void **checkDestinationResolver** ()

6.136.1 Detailed Description

Extends the `CmsAccessor (p. 965)` to add support for resolving destination names. Not intended to be used directly.

See also:

CmsTemplate (p. 986)
CmsAccessor (p. 965)

6.136.2 Constructor & Destructor Documentation

6.136.2.1 activemq::cmsutil::CmsDestinationAccessor::CmsDestinationAccessor ()

6.136.2.2 virtual activemq::cmsutil::CmsDestinationAccessor::~CmsDestinationAccessor () [virtual]

6.136.3 Member Function Documentation

6.136.3.1 virtual void activemq::cmsutil::CmsDestinationAccessor::checkDestinationResolver () [protected, virtual]

6.136.3.2 virtual void activemq::cmsutil::CmsDestinationAccessor::destroy () [protected, virtual]

Shuts down this object and destroys any allocated resources.

Exceptions:

CMSException if an error occurs during destruction.

IllegalStateException if this object has already been destroyed.

Reimplemented from **activemq::cmsutil::CmsAccessor** (p. 967).

Reimplemented in **activemq::cmsutil::CmsTemplate** (p. 989).

6.136.3.3 virtual const DestinationResolver* activemq::cmsutil::CmsDestinationAccessor::getDestinationResolver () const [inline, virtual]

6.136.3.4 virtual DestinationResolver* activemq::cmsutil::CmsDestinationAccessor::getDestinationResolver () [inline, virtual]

6.136.3.5 virtual void activemq::cmsutil::CmsDestinationAccessor::init () [protected, virtual]

Initializes this object and prepares it for use. This should be called before any other methods are called. This version does nothing.

Exceptions:

CMSException if an error occurs during initialization.

IllegalStateException if this object has already been initialized.

Reimplemented from **activemq::cmsutil::CmsAccessor** (p. 968).

Reimplemented in **activemq::cmsutil::CmsTemplate** (p. 992).

6.136.3.6 virtual bool activemq::cmsutil::CmsDestinationAccessor::isPubSubDomain () const [inline, virtual]

6.136.3.7 virtual cms::Destination* activemq::cmsutil::CmsDestinationAccessor::resolveDestinationName (cms::Session * *session*, const std::string & *destName*) [protected, virtual]

6.136.3.8 virtual void activemq::cmsutil::CmsDestinationAccessor::setDestinationResolver (DestinationResolver * *destRes*) [inline, virtual]

6.136.3.9 virtual void activemq::cmsutil::CmsDestinationAccessor::setPubSubDomain (bool *pubSubDomain*) [inline, virtual]

Reimplemented in **activemq::cmsutil::CmsTemplate** (p. 997).

Referenced by activemq::cmsutil::CmsTemplate::setPubSubDomain().

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CmsDestinationAccessor.h**

6.137 cms::CMSException Class Reference

CMS API Exception that is the base for all exceptions thrown from CMS classes.

`#include <src/main/cms/CMSException.h>`Inheritance diagram for cms::CMSException:

Public Member Functions

- **CMSException** ()
- **CMSException** (const **CMSException** &ex)
- **CMSException** (const std::string &message)
- **CMSException** (const std::string &message, const std::exception *cause)
- **CMSException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**CMSException** () throw ()
- virtual std::string **getMessage** () const

  Gets the cause of the error.

- virtual const std::exception * **getCause** () const

  Gets the exception that caused this one to be thrown, this allows for chaining of exceptions in the case of a method that throws only a particular exception but wishes to allow for the real causal exception to be passed only in case the caller knows about that type of exception and wishes to respond to it.

- virtual std::vector< std::pair< std::string, int > > **getStackTrace** () const

  Provides the stack trace for every point where this exception was caught, marked, and rethrown.

- virtual void **setMark** (const char *file, const int lineNumber)

  Adds a file/line number to the stack trace.

- virtual void **printStackTrace** () const

  Prints the stack trace to std::err.

- virtual void **printStackTrace** (std::ostream &stream) const

  Prints the stack trace to the given output stream.

- virtual std::string **getStackTraceString** () const

  Gets the stack trace as one contiguous string.

- virtual const char * **what** () const throw ()

  *Overloads the std::exception **what()** (p. 976) function to return the cause of the exception.*

- virtual **CMSException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.137.1 Detailed Description

CMS API Exception that is the base for all exceptions thrown from CMS classes. This class represents an error that has occurred in CMS, providers can wrap provider specific exceptions in this class by setting the cause to an instance of a provider specific exception provided it can be cast to an std::exception.

Since the contained cause exception is of type std::exception and the C++ exception class has no clone or copy method defined the contained exception can only be owned by one instance of an **CMSException** (p. 973). To that end the class hands off the exception to each successive copy or clone so care must be taken when handling **CMSException** (p. 973) instances.

Since:

1.0

6.137.2 Constructor & Destructor Documentation

6.137.2.1 cms::CMSException::CMSException ()

6.137.2.2 cms::CMSException::CMSException (const CMSException & *ex*)

6.137.2.3 cms::CMSException::CMSException (const std::string & *message*)

6.137.2.4 cms::CMSException::CMSException (const std::string & *message*, const std::exception * *cause*)

6.137.2.5 cms::CMSException::CMSException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.137.2.6 virtual cms::CMSException::~CMSException () throw () [virtual]

6.137.3 Member Function Documentation

6.137.3.1 virtual CMSException* cms::CMSException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented in **cms::CMSSecurityException** (p. 985), **cms::IllegalStateException** (p. 1646), **cms::InvalidClientIdException** (p. 1760), **cms::InvalidDestinationException** (p. 1762), **cms::InvalidSelectorException** (p. 1770), **cms::MessageEOFException** (p. 2158), **cms::MessageFormatException** (p. 2160), **cms::MessageNotReadableException** (p. 2176), **cms::MessageNotWriteableException** (p. 2178), **cms::ResourceAllocationException** (p. 2586), **cms::TransactionInProgressException** (p. 3099), **cms::TransactionRolledBackException** (p. 3101), **cms::UnsupportedOperationException** (p. 3151), and **cms::XAException** (p. 3251).

6.137.3.2 virtual const std::exception* cms::CMSException::getCause () const [virtual]

Gets the exception that caused this one to be thrown, this allows for chaining of exceptions in the case of a method that throws only a particular exception but wishes to allow for the real causal exception to be passed only in case the caller knows about that type of exception and wishes to respond to it.

Returns:

a const pointer reference to the causal exception, if there was no cause associated with this exception then NULL is returned.

6.137.3.3 virtual std::string cms::CMSException::getMessage () const [virtual]

Gets the cause of the error.

Returns:

string errors message

6.137.3.4 virtual std::vector< std::pair< std::string, int> > cms::CMSException::getStackTrace () const [virtual]

Provides the stack trace for every point where this exception was caught, marked, and rethrown.

Returns:

vector containing stack trace strings

6.137.3.5 virtual std::string cms::CMSException::getStackTraceString () const [virtual]

Gets the stack trace as one contiguous string.

Returns:

string with formatted stack trace data

6.137.3.6 virtual void cms::CMSException::printStackTrace (std::ostream & *stream*) const [virtual]

Prints the stack trace to the given output stream.

Parameters:

stream the target output stream.

6.137.3.7 virtual void cms::CMSException::printStackTrace () const [virtual]

Prints the stack trace to std::err.

6.137.3.8 virtual void cms::CMSException::setMark (const char * *file*, const int *lineNumber*) [virtual]

Adds a file/line number to the stack trace.

Parameters:

file The name of the file calling this method (use __FILE__).

lineNumber The line number in the calling file (use __LINE__).

6.137.3.9 virtual const char* cms::CMSException::what () const throw () [virtual]

Overloads the std::exception **what()** (p. 976) function to return the cause of the exception.

Returns:

const char pointer to error message

The documentation for this class was generated from the following file:

- src/main/cms/**CMSException.h**

6.138 activemq::util::CMSExceptionSupport Class Reference

`#include <src/main/activemq/util/CMSExceptionSupport.h>`

Public Member Functions

- virtual ~**CMSExceptionSupport** ()

Static Public Member Functions

- static **cms::CMSException create** (const std::string &msg, const **decaf::lang::Exception** &cause)
- static **cms::CMSException create** (const **decaf::lang::Exception** &cause)
- static **cms::MessageEOFException createMessageEOFException** (const **decaf::lang::Exception** &cause)
- static **cms::MessageFormatException createMessageFormatException** (const **decaf::lang::Exception** &cause)

6.138.1 Constructor & Destructor Documentation

6.138.1.1 virtual activemq::util::CMSExceptionSupport::~CMSExceptionSupport () [virtual]

6.138.2 Member Function Documentation

6.138.2.1 static cms::CMSException activemq::util::CMSExceptionSupport::create (const decaf::lang::Exception & *cause*) [static]

6.138.2.2 static cms::CMSException activemq::util::CMSExceptionSupport::create (const std::string & *msg*, const decaf::lang::Exception & *cause*) [static]

6.138.2.3 static cms::MessageEOFException activemq::util::CMSExceptionSupport::createMessageEOFException (const decaf::lang::Exception & *cause*) [static]

6.138.2.4 static cms::MessageFormatException activemq::util::CMSExceptionSupport::createMessageFormatException (const decaf::lang::Exception & *cause*) [static]

Referenced by activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getBooleanProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getByteProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getDoubleProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getFloatProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getIntProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getLongProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getShortProperty(), and activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getStringProperty().

The documentation for this class was generated from the following file:

- src/main/activemq/util/**CMSExceptionSupport.h**

6.139 cms::CMSProperties Class Reference

Interface for a Java-like properties object.

`#include <src/main/cms/CMSProperties.h>`Inheritance diagram for cms::CMSProperties:

Public Member Functions

- virtual ~**CMSProperties** ()
- virtual int **size** () const =0

  Returns the current count of all the Properties that are currently stored in the Properties object.

- virtual bool **isEmpty** () const =0

  Returns true if the properties object is empty.

- virtual const char * **getProperty** (const std::string &name) const =0

  Looks up the value for the given property.

- virtual std::string **getProperty** (const std::string &name, const std::string &defaultValue) const =0

  Looks up the value for the given property.

- virtual void **setProperty** (const std::string &name, const std::string &value)=0

  Sets the value for a given property.

- virtual bool **hasProperty** (const std::string &name) const =0

  Check to see if the Property exists in the set.

- virtual std::string **remove** (const std::string &name)=0

  Removes the property with the given name.

- virtual std::vector< std::string > **propertyNames** () const =0

  Returns a vector containing all the names of the properties currently stored in the Properties object.

- virtual std::vector< std::pair< std::string, std::string > > **toArray** () const =0

  Method that serializes the contents of the property map to an array.

- virtual void **copy** (const **CMSProperties** *source)=0

  Copies the contents of the given properties object to this one.

- virtual **CMSProperties** * **clone** () const =0

  Clones this object.

- virtual void **clear** ()=0

  Clears all properties from the map.

- virtual std::string **toString** () const =0

  Formats the contents of the Properties Object into a string that can be logged, etc.

6.139.1 Detailed Description

Interface for a Java-like properties object. This is essentially a map of key-value string pairs.

Since:

1.1

6.139.2 Constructor & Destructor Documentation

6.139.2.1 virtual cms::CMSProperties::~CMSProperties () [virtual]

6.139.3 Member Function Documentation

6.139.3.1 virtual void cms::CMSProperties::clear () [pure virtual]

Clears all properties from the map.

Implemented in **activemq::util::ActiveMQProperties** (p. 411).

6.139.3.2 virtual CMSProperties* cms::CMSProperties::clone () const [pure virtual]

Clones this object.

Returns:

a replica of this object.

Implemented in **activemq::util::ActiveMQProperties** (p. 411).

6.139.3.3 virtual void cms::CMSProperties::copy (const CMSProperties * *source*) [pure virtual]

Copies the contents of the given properties object to this one.

Parameters:

source The source properties object.

6.139.3.4 virtual std::string cms::CMSProperties::getProperty (const std::string & *name*, const std::string & *defaultValue*) const [pure virtual]

Looks up the value for the given property.

Parameters:

name the name of the property to be looked up.

defaultValue The value to be returned if the given property does not exist.

Returns:

The value of the property specified by `name`, if it exists, otherwise the `defaultValue`.

Implemented in **activemq::util::ActiveMQProperties** (p. 412).

6.139.3.5 virtual const char* cms::CMSProperties::getProperty (const std::string & *name*) const [pure virtual]

Looks up the value for the given property.

Parameters:

name The name of the property to be looked up.

Returns:

the value of the property with the given name, if it exists. If it does not exist, returns NULL.

Implemented in **activemq::util::ActiveMQProperties** (p. 412).

6.139.3.6 virtual bool cms::CMSProperties::hasProperty (const std::string & *name*) const [pure virtual]

Check to see if the Property exists in the set.

Parameters:

name the name of the property to check

Returns:

true if property exists, false otherwise.

Implemented in **activemq::util::ActiveMQProperties** (p. 412).

6.139.3.7 virtual bool cms::CMSProperties::isEmpty () const [pure virtual]

Returns true if the properties object is empty.

Returns:

true if empty

Implemented in **activemq::util::ActiveMQProperties** (p. 413).

6.139.3.8 virtual std::vector<std::string> cms::CMSProperties::propertyNames () const [pure virtual]

Returns a vector containing all the names of the properties currently stored in the Properties object.

Returns:

an STL std::vector<std::string> with all the currently stored property names.

Implemented in **activemq::util::ActiveMQProperties** (p. 413).

6.139.3.9 virtual std::string cms::CMSProperties::remove (const std::string & *name*) [pure virtual]

Removes the property with the given name. If the property existed in the collection then it is removed and returned, otherwise an empty string is returned.

Parameters:

name the name of the property to be removed.

Returns:

the value that was removed from the Properties, or empty string.

Implemented in **activemq::util::ActiveMQProperties** (p. 413).

6.139.3.10 virtual void cms::CMSProperties::setProperty (const std::string & *name*, const std::string & *value*) [pure virtual]

Sets the value for a given property. If the property already exists, overwrites the value.

Parameters:

name The name of the value to be written.

value The value to be written.

Implemented in **activemq::util::ActiveMQProperties** (p. 413).

6.139.3.11 virtual int cms::CMSProperties::size () const [pure virtual]

Returns the current count of all the Properties that are currently stored in the Properties object.

Returns:

the number of properties currently stored.

Implemented in **activemq::util::ActiveMQProperties** (p. 414).

6.139.3.12 virtual std::vector< std::pair< std::string, std::string > > cms::CMSProperties::toArray () const [pure virtual]

Method that serializes the contents of the property map to an array.

Returns:

list of pairs where the first is the name and the second is the value.

Implemented in **activemq::util::ActiveMQProperties** (p. 414).

6.139.3.13 virtual std::string cms::CMSProperties::toString () const [pure virtual]

Formats the contents of the Properties Object into a string that can be logged, etc.

Returns:

string value of this object.

Implemented in **activemq::util::ActiveMQProperties** (p. 414).

The documentation for this class was generated from the following file:

- src/main/cms/**CMSProperties.h**

6.140 cms::CMSSecurityException Class Reference

This exception must be thrown when a provider rejects a user name/password submitted by a client.

`#include <src/main/cms/CMSSecurityException.h>`Inheritance diagram for cms::CMSSecurityException:

Public Member Functions

- **CMSSecurityException** ()
- **CMSSecurityException** (const **CMSSecurityException** &ex)
- **CMSSecurityException** (const std::string &message)
- **CMSSecurityException** (const std::string &message, const std::exception *cause)
- **CMSSecurityException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**CMSSecurityException** () throw ()
- virtual **CMSSecurityException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.140.1 Detailed Description

This exception must be thrown when a provider rejects a user name/password submitted by a client. It may also be thrown for any case where a security restriction prevents a method from completing.

Since:

1.3

6.140.2 Constructor & Destructor Documentation

6.140.2.1 cms::CMSSecurityException::CMSSecurityException ()

6.140.2.2 cms::CMSSecurityException::CMSSecurityException (const CMSSecurityException & *ex*)

6.140.2.3 cms::CMSSecurityException::CMSSecurityException (const std::string & *message*)

6.140.2.4 cms::CMSSecurityException::CMSSecurityException (const std::string & *message*, const std::exception * *cause*)

6.140.2.5 cms::CMSSecurityException::CMSSecurityException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.140.2.6 virtual cms::CMSSecurityException::~CMSSecurityException () throw () [virtual]

6.140.3 Member Function Documentation

6.140.3.1 virtual CMSSecurityException* cms::CMSSecurityException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**CMSSecurityException.h**

6.141 activemq::cmsutil::CmsTemplate Class Reference

`CmsTemplate` (p. 986) simplifies performing synchronous CMS operations.

`#include <src/main/activemq/cmsutil/CmsTemplate.h>`Inheritance diagram for activemq::cmsutil::CmsTemplate:

Data Structures

- class **ProducerExecutor**
- class **ReceiveExecutor**
- class **ResolveProducerExecutor**
- class **ResolveReceiveExecutor**
- class **SendExecutor**

Public Member Functions

- **CmsTemplate** ()
- **CmsTemplate** (**cms::ConnectionFactory** *connectionFactory)
- virtual ~**CmsTemplate** ()
- virtual void **setDefaultDestination** (**cms::Destination** *defaultDestination)

  Sets the destination object to be used by default for send/receive operations.

- virtual const **cms::Destination** * **getDefaultDestination** () const

  Retrieves the default destination to be used for send/receive operations.

- virtual **cms::Destination** * **getDefaultDestination** ()

  Retrieves the default destination to be used for send/receive operations.

- virtual void **setDefaultDestinationName** (const std::string &defaultDestinationName)

  Sets the name of the default destination to be used from send/receive operations.

- virtual const std::string **getDefaultDestinationName** () const

  Gets the name of the default destination to be used for send/receive operations.

- virtual void **setPubSubDomain** (bool pubSubDomain)

  Indicates whether the default destination is a topic (true) or a queue (false).

- virtual void **setMessageIdEnabled** (bool messageIdEnabled)
- virtual bool **isMessageIdEnabled** () const
- virtual void **setMessageTimestampEnabled** (bool messageTimestampEnabled)
- virtual bool **isMessageTimestampEnabled** () const
- virtual void **setNoLocal** (bool noLocal)
- virtual bool **isNoLocal** () const
- virtual void **setReceiveTimeout** (long long receiveTimeout)
- virtual long long **getReceiveTimeout** () const
- virtual void **setExplicitQosEnabled** (bool explicitQosEnabled)

  Set if the QOS values (deliveryMode, priority, timeToLive) should be used for sending a message.

- virtual bool **isExplicitQosEnabled** () const

  If "true", then the values of deliveryMode, priority, and timeToLive will be used when sending a message.

- virtual void **setDeliveryPersistent** (bool deliveryPersistent)

  Set whether message delivery should be persistent or non-persistent, specified as boolean value ("true" or "false").

- virtual void **setDeliveryMode** (int deliveryMode)

  Set the delivery mode to use when sending a message.

- virtual int **getDeliveryMode** () const

  Return the delivery mode to use when sending a message.

- virtual void **setPriority** (int priority)

  Set the priority of a message when sending.

- virtual int **getPriority** () const

  Return the priority of a message when sending.

- virtual void **setTimeToLive** (long long timeToLive)

  Set the time-to-live of the message when sending.

- virtual long long **getTimeToLive** () const

  Return the time-to-live of the message when sending.

- virtual void **execute** (**SessionCallback** *action)

  Executes the given action within a CMS Session.

- virtual void **execute** (**ProducerCallback** *action)

  Executes the given action and provides it with a CMS Session and producer.

- virtual void **execute** (**cms::Destination** *dest, **ProducerCallback** *action)

  Executes the given action and provides it with a CMS Session and producer.

- virtual void **execute** (const std::string &destinationName, **ProducerCallback** *action)

  Executes the given action and provides it with a CMS Session and producer.

- virtual void **send** (**MessageCreator** *messageCreator)

  Convenience method for sending a message to the default destination.

- virtual void **send** (**cms::Destination** *dest, **MessageCreator** *messageCreator)

  Convenience method for sending a message to the specified destination.

- virtual void **send** (const std::string &destinationName, **MessageCreator** *messageCreator)

  Convenience method for sending a message to the specified destination.

- virtual **cms::Message** * **receive** ()

Performs a synchronous read from the default destination.

- virtual **cms::Message** * **receive** (**cms::Destination** *destination)

  Performs a synchronous read from the specified destination.

- virtual **cms::Message** * **receive** (const std::string &destinationName)

  Performs a synchronous read from the specified destination.

- virtual **cms::Message** * **receiveSelected** (const std::string &selector)

  Performs a synchronous read consuming only messages identified by the given selector.

- virtual **cms::Message** * **receiveSelected** (**cms::Destination** *destination, const std::string &selector)

  Performs a synchronous read from the specified destination, consuming only messages identified by the given selector.

- virtual **cms::Message** * **receiveSelected** (const std::string &destinationName, const std::string &selector)

  Performs a synchronous read from the specified destination, consuming only messages identified by the given selector.

Static Public Attributes

- static const long long **RECEIVE_TIMEOUT_NO_WAIT**

  Timeout value indicating that a receive operation should check if a message is immediately available without blocking.

- static const long long **RECEIVE_TIMEOUT_INDEFINITE_WAIT**

  Timeout value indicating a blocking receive without timeout.

- static const int **DEFAULT_PRIORITY**

  Default message priority.

- static const long long **DEFAULT_TIME_TO_LIVE**

  My default, messages should live forever.

Protected Member Functions

- void **init** ()

  Initializes this object and prepares it for use.

- void **destroy** ()

  Shuts down this object and destroys any allocated resources.

Friends

- class **ProducerExecutor**
- class **ResolveProducerExecutor**
- class **SendExecutor**
- class **ReceiveExecutor**
- class **ResolveReceiveExecutor**

6.141.1 Detailed Description

`CmsTemplate` (p. 986) simplifies performing synchronous CMS operations. This class is intended to be for CMS what Spring's `JmsTemplate` is for JMS. Provided with a CMS `ConnectionFactory`, creates and manages all other CMS resources internally.

Before using `CmsTemplate` (p. 986) the user must first set the destination (either by name or by setting the destination object directly) and then call `init` to initialize the object for use.

`CmsTemplate` (p. 986) allows the user to get access to a CMS `Session` through a user-defined `SessionCallback` (p. 2679). Similarly, if the user wants direct access to a CMS `MessageProducer`, it can provide a `ProducerCallback` (p. 2449). As a convenience, the user can bypass having to provide callbacks altogether for sending messages, by calling one of the `send` methods.

See also:

SessionCallback (p. 2679)
ProducerCallback (p. 2449)
MessageCreator (p. 2120)

6.141.2 Constructor & Destructor Documentation

6.141.2.1 activemq::cmsutil::CmsTemplate::CmsTemplate ()

6.141.2.2 activemq::cmsutil::CmsTemplate::CmsTemplate (cms::ConnectionFactory * *connectionFactory*)

6.141.2.3 virtual activemq::cmsutil::CmsTemplate::~CmsTemplate () [virtual]

6.141.3 Member Function Documentation

6.141.3.1 void activemq::cmsutil::CmsTemplate::destroy () [protected, virtual]

Shuts down this object and destroys any allocated resources.

Exceptions:

CMSException if an error occurs during destruction.

IllegalStateException if this object has already been destroyed.

Reimplemented from **activemq::cmsutil::CmsDestinationAccessor** (p. 971).

6.141.3.2 virtual void activemq::cmsutil::CmsTemplate::execute (const std::string & *destinationName*, ProducerCallback * *action*) [virtual]

Executes the given action and provides it with a CMS Session and producer.

Parameters:

destinationName the name of the destination to send messages to (to internally be resolved to an actual destination)

action the action to perform

Exceptions:

cms::CMSException (p. ***973***) thrown if an error occurs.

6.141.3.3 virtual void activemq::cmsutil::CmsTemplate::execute (cms::Destination * *dest*, ProducerCallback * *action*) [virtual]

Executes the given action and provides it with a CMS Session and producer.

Parameters:

dest the destination to send messages to

action the action to perform

Exceptions:

cms::CMSException (p. ***973***) thrown if an error occurs.

6.141.3.4 virtual void activemq::cmsutil::CmsTemplate::execute (ProducerCallback * *action*) [virtual]

Executes the given action and provides it with a CMS Session and producer.

Parameters:

action the action to perform

Exceptions:

cms::CMSException (p. ***973***) thrown if an error occurs.

6.141.3.5 virtual void activemq::cmsutil::CmsTemplate::execute (SessionCallback * *action*) [virtual]

Executes the given action within a CMS Session.

Parameters:

action the action to perform within a CMS Session

Exceptions:

cms::CMSException (p. ***973***) thrown if an error occurs.

6.141.3.6 virtual cms::Destination* activemq::cmsutil::CmsTemplate::getDefaultDestination () [inline, virtual]

Retrieves the default destination to be used for send/receive operations.

Returns:

the default destination. Non-const version of this method.

6.141.3.7 virtual const cms::Destination* activemq::cmsutil::CmsTemplate::getDefaultDestination () const [inline, virtual]

Retrieves the default destination to be used for send/receive operations.

Returns:

the default destination. Const version of this method.

6.141.3.8 virtual const std::string activemq::cmsutil::CmsTemplate::getDefaultDestinationName () const [inline, virtual]

Gets the name of the default destination to be used for send/receive operations. The destination type (topic/queue) is determined by the `pubSubDomain` property.

Returns:

the default name of the destination for send/receive operations.

6.141.3.9 virtual int activemq::cmsutil::CmsTemplate::getDeliveryMode () const [inline, virtual]

Return the delivery mode to use when sending a message.

6.141.3.10 virtual int activemq::cmsutil::CmsTemplate::getPriority () const [inline, virtual]

Return the priority of a message when sending.

6.141.3.11 virtual long long activemq::cmsutil::CmsTemplate::getReceiveTimeout () const [inline, virtual]

6.141.3.12 virtual long long activemq::cmsutil::CmsTemplate::getTimeToLive () const [inline, virtual]

Return the time-to-live of the message when sending.

6.141.3.13 void activemq::cmsutil::CmsTemplate::init () [protected, virtual]

Initializes this object and prepares it for use. This should be called before any other methods are called. This version does nothing.

Exceptions:

CMSException if an error occurs during initialization.
IllegalStateException if this object has already been initialized.

Reimplemented from **activemq::cmsutil::CmsDestinationAccessor** (p. 971).

6.141.3.14 virtual bool activemq::cmsutil::CmsTemplate::isExplicitQosEnabled () const [inline, virtual]

If "true", then the values of deliveryMode, priority, and timeToLive will be used when sending a message. Otherwise, the default values, that may be set administratively, will be used.

Returns:

true if overriding default values of QOS parameters (deliveryMode, priority, and timeToLive)

See also:

setDeliveryMode (p. 996)
setPriority (p. 997)
setTimeToLive (p. 997)

6.141.3.15 virtual bool activemq::cmsutil::CmsTemplate::isMessageIdEnabled () const [inline, virtual]

6.141.3.16 virtual bool activemq::cmsutil::CmsTemplate::isMessageTimestampEnabled () const [inline, virtual]

6.141.3.17 virtual bool activemq::cmsutil::CmsTemplate::isNoLocal () const [inline, virtual]

6.141.3.18 virtual cms::Message* activemq::cmsutil::CmsTemplate::receive (const std::string & *destinationName*) [virtual]

Performs a synchronous read from the specified destination.

Parameters:

destinationName the name of the destination to receive on (will be resolved to destination internally).

Returns:

the message

Exceptions:

cms::CMSException *(p. 973)* thrown if an error occurs

6.141.3.19 virtual cms::Message* activemq::cmsutil::CmsTemplate::receive (cms::Destination * *destination*) [virtual]

Performs a synchronous read from the specified destination.

Parameters:

destination the destination to receive on

Returns:

the message

Exceptions:

cms::CMSException *(*p. ***973****)* thrown if an error occurs

6.141.3.20 virtual cms::Message* activemq::cmsutil::CmsTemplate::receive () [virtual]

Performs a synchronous read from the default destination.

Returns:

the message

Exceptions:

cms::CMSException *(*p. ***973****)* thrown if an error occurs

6.141.3.21 virtual cms::Message* activemq::cmsutil::CmsTemplate::receiveSelected (const std::string & *destinationName*, const std::string & *selector*) [virtual]

Performs a synchronous read from the specified destination, consuming only messages identified by the given selector.

Parameters:

destinationName the name of the destination to receive on (will be resolved to destination internally).

selector the selector expression.

Returns:

the message

Exceptions:

cms::CMSException *(*p. ***973****)* thrown if an error occurs

6.141.3.22 virtual cms::Message* activemq::cmsutil::CmsTemplate::receiveSelected (cms::Destination * *destination*, const std::string & *selector*) [virtual]

Performs a synchronous read from the specified destination, consuming only messages identified by the given selector.

Parameters:

destination the destination to receive on.

selector the selector expression.

Returns:

the message

Exceptions:

cms::CMSException (p. ***973***) thrown if an error occurs

6.141.3.23 virtual cms::Message* activemq::cmsutil::CmsTemplate::receiveSelected (const std::string & *selector*) [virtual]

Performs a synchronous read consuming only messages identified by the given selector.

Parameters:

selector the selector expression.

Returns:

the message

Exceptions:

cms::CMSException (p. ***973***) thrown if an error occurs

6.141.3.24 virtual void activemq::cmsutil::CmsTemplate::send (const std::string & *destinationName*, MessageCreator * *messageCreator*) [virtual]

Convenience method for sending a message to the specified destination.

Parameters:

destinationName The name of the destination to send to.

messageCreator Responsible for creating the message to be sent

Exceptions:

cms::CMSException (p. ***973***) thrown if an error occurs.

6.141.3.25 virtual void activemq::cmsutil::CmsTemplate::send (cms::Destination * *dest*, MessageCreator * *messageCreator*) [virtual]

Convenience method for sending a message to the specified destination.

Parameters:

dest The destination to send to

messageCreator Responsible for creating the message to be sent

Exceptions:

cms::CMSException *(*p. ***973****)* thrown if an error occurs.

6.141.3.26 virtual void activemq::cmsutil::CmsTemplate::send (MessageCreator * *messageCreator*) [virtual]

Convenience method for sending a message to the default destination.

Parameters:

messageCreator Responsible for creating the message to be sent

Exceptions:

cms::CMSException *(*p. ***973****)* thrown if an error occurs.

6.141.3.27 virtual void activemq::cmsutil::CmsTemplate::setDefaultDestination (cms::Destination * *defaultDestination*) [inline, virtual]

Sets the destination object to be used by default for send/receive operations. If no default destination is provided, the `defaultDestinationName` property is used to resolve this default destination for send/receive operations.

Parameters:

defaultDestination the default destination

6.141.3.28 virtual void activemq::cmsutil::CmsTemplate::setDefaultDestinationName (const std::string & *defaultDestinationName*) [inline, virtual]

Sets the name of the default destination to be used from send/receive operations. Calling this method will set the `defaultDestination` property to NULL. The destination type (topic/queue) is determined by the `pubSubDomain` property.

Parameters:

defaultDestinationName the name of the destination for send/receive to by default.

References NULL.

6.141.3.29 virtual void activemq::cmsutil::CmsTemplate::setDeliveryMode (int *deliveryMode*) [inline, virtual]

Set the delivery mode to use when sending a message. Default is the Message default: "PERSISTENT".

Since a default value may be defined administratively, this is only used when "isExplicitQosEnabled" equals "true".

Parameters:

deliveryMode the delivery mode to use

See also:

isExplicitQosEnabled (p. 992)

6.141.3.30 virtual void activemq::cmsutil::CmsTemplate::setDeliveryPersistent (bool *deliveryPersistent*) [inline, virtual]

Set whether message delivery should be persistent or non-persistent, specified as boolean value ("true" or "false"). This will set the delivery mode accordingly, to either "PERSISTENT" or "NON_PERSISTENT".

Default it "true" aka delivery mode "PERSISTENT".

See also:

setDeliveryMode(int) (p. 996)

6.141.3.31 virtual void activemq::cmsutil::CmsTemplate::setExplicitQosEnabled (bool *explicitQosEnabled*) [inline, virtual]

Set if the QOS values (deliveryMode, priority, timeToLive) should be used for sending a message.

See also:

setDeliveryMode (p. 996)
setPriority (p. 997)
setTimeToLive (p. 997)

6.141.3.32 virtual void activemq::cmsutil::CmsTemplate::setMessageIdEnabled (bool *messageIdEnabled*) [inline, virtual]

6.141.3.33 virtual void activemq::cmsutil::CmsTemplate::setMessageTimestampEnabled (bool *messageTimestampEnabled*) [inline, virtual]

6.141.3.34 virtual void activemq::cmsutil::CmsTemplate::setNoLocal (bool *noLocal*) [inline, virtual]

6.141.3.35 virtual void activemq::cmsutil::CmsTemplate::setPriority (int *priority*) [inline, virtual]

Set the priority of a message when sending. Since a default value may be defined administratively, this is only used when "isExplicitQosEnabled" equals "true".

See also:

isExplicitQosEnabled (p. 992)

6.141.3.36 virtual void activemq::cmsutil::CmsTemplate::setPubSubDomain (bool *pubSubDomain*) [inline, virtual]

Indicates whether the default destination is a topic (true) or a queue (false). Calling this method will set the `defaultDestination` property to NULL.

Parameters:

pubSubDomain indicates whether to use pub-sub messaging (topics).

Reimplemented from **activemq::cmsutil::CmsDestinationAccessor** (p. 972).

References NULL, and activemq::cmsutil::CmsDestinationAccessor::setPubSubDomain().

6.141.3.37 virtual void activemq::cmsutil::CmsTemplate::setReceiveTimeout (long long *receiveTimeout*) [inline, virtual]

6.141.3.38 virtual void activemq::cmsutil::CmsTemplate::setTimeToLive (long long *timeToLive*) [inline, virtual]

Set the time-to-live of the message when sending. Since a default value may be defined administratively, this is only used when "isExplicitQosEnabled" equals "true".

Parameters:

timeToLive the message's lifetime (in milliseconds)

See also:

isExplicitQosEnabled (p. 992)

6.141.4 Friends And Related Function Documentation

6.141.4.1 friend class ProducerExecutor [friend]

6.141.4.2 friend class ReceiveExecutor [friend]

6.141.4.3 friend class ResolveProducerExecutor [friend]

6.141.4.4 friend class ResolveReceiveExecutor [friend]

6.141.4.5 friend class SendExecutor [friend]

6.141.5 Field Documentation

6.141.5.1 const int activemq::cmsutil::CmsTemplate::DEFAULT_PRIORITY [static]

Default message priority.

6.141.5.2 const long long activemq::cmsutil::CmsTemplate::DEFAULT_TIME_TO_LIVE [static]

My default, messages should live forever.

6.141.5.3 const long long activemq::cmsutil::CmsTemplate::RECEIVE_TIMEOUT_INDEFINITE_WAIT [static]

Timeout value indicating a blocking receive without timeout.

6.141.5.4 const long long activemq::cmsutil::CmsTemplate::RECEIVE_TIMEOUT_NO_WAIT [static]

Timeout value indicating that a receive operation should check if a message is immediately available without blocking.

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CmsTemplate.h**

6.142 code Struct Reference

`#include <src/main/decaf/internal/util/zip/inftrees.h>`

Data Fields

- unsigned char **op**
- unsigned char **bits**
- unsigned short **val**

6.142.1 Field Documentation

6.142.1.1 unsigned char code::bits

6.142.1.2 unsigned char code::op

6.142.1.3 unsigned short code::val

The documentation for this struct was generated from the following file:

- src/main/decaf/internal/util/zip/**inftrees.h**

6.143 decaf::util::Collection< E > Class Template Reference

The root interface in the collection hierarchy.

`#include <src/main/decaf/util/Collection.h>`Inheritance diagram for decaf::util::Collection< E >:

Public Member Functions

- virtual ~**Collection** ()
- virtual void **copy** (const **Collection**< E > &collection)=0

  Renders this ***Collection*** (p. *1000*) *as a Copy of the given* ***Collection*** (p. *1000*).

- virtual bool **add** (const E &value)=0

  Returns true if this collection changed as a result of the call.

- virtual bool **addAll** (const **Collection**< E > &collection)=0

  Adds all of the elements in the specified collection to this collection.

- virtual void **clear** ()=0

  Removes all of the elements from this collection (optional operation).

- virtual bool **contains** (const E &value) const =0

  Returns true if this collection contains the specified element.

- virtual bool **containsAll** (const **Collection**< E > &collection) const =0

  Returns true if this collection contains all of the elements in the specified collection.

- virtual bool **equals** (const **Collection**< E > &value) const =0

  Compares the passed collection to this one, if they contain the same elements, i.e.

- virtual bool **isEmpty** () const =0
- virtual bool **remove** (const E &value)=0

  Removes a single instance of the specified element from the collection.

- virtual bool **removeAll** (const **Collection**< E > &collection)=0

  Removes all this collection's elements that are also contained in the specified collection (optional operation).

- virtual bool **retainAll** (const **Collection**< E > &collection)=0

  Retains only the elements in this collection that are contained in the specified collection (optional operation).

- virtual int **size** () const =0

  Returns the number of elements in this collection.

- virtual std::vector< E > **toArray** () const =0

  Returns an array containing all of the elements in this collection.

6.143.1 Detailed Description

template<typename E> class decaf::util::Collection< E >

The root interface in the collection hierarchy. A collection represents a group of objects, known as its elements. Some collections allow duplicate elements and others do not. Some are ordered and others unordered. This interface is typically used to pass collections around and manipulate them where maximum generality is desired.

All general-purpose **Collection** (p. 1000) implementation classes (which typically implement **Collection** (p. 1000) indirectly through one of its subinterfaces) should provide two "standard" constructors: a void (no arguments) constructor, which creates an empty collection, and a constructor with a single argument of type **Collection** (p. 1000), which creates a new collection with the same elements as its argument. In effect, the latter constructor allows the user to copy any collection, producing an equivalent collection of the desired implementation type. There is no way to enforce this convention (as interfaces cannot contain constructors) but all of the general-purpose **Collection** (p. 1000) implementations in the Decaf platform libraries comply.

The "destructive" methods contained in this interface, that is, the methods that modify the collection on which they operate, are specified to throw UnsupportedOperationException if this collection does not support the operation. If this is the case, these methods may, but are not required to, throw an UnsupportedOperationException if the invocation would have no effect on the collection. For example, invoking the addAll(Collection) method on an unmodifiable collection may, but is not required to, throw the exception if the collection to be added is empty.

Many methods in **Collections** (p. 1012) Framework interfaces are defined in terms of the equals method. For example, the specification for the contains(Object o) method says: returns true if and only if this collection contains at least one element e such that (o==null ? e==null : o.equals(e)).

Since:

1.0

6.143.2 Constructor & Destructor Documentation

6.143.2.1 template<typename E> virtual decaf::util::Collection< E >::~Collection () [inline, virtual]

6.143.3 Member Function Documentation

6.143.3.1 template<typename E> virtual bool decaf::util::Collection< E >::add (const E & *value*) [pure virtual]

Returns true if this collection changed as a result of the call. (Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implemented in **decaf::util::AbstractList< E >** (p. 158), **decaf::util::AbstractQueue< E >** (p. 176), **decaf::util::ArrayList< E >** (p. 582), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1200), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1217), **decaf::util::LinkedList< E >** (p. 1873), **decaf::util::PriorityQueue< E >** (p. 2434), **decaf::util::StlList< E >** (p. 2843), **decaf::util::StlSet< E >** (p. 2879), **decaf::util::AbstractList< ServiceListener * >** (p. 158), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 158), **decaf::util::AbstractList< CompositeTask * >** (p. 158), **decaf::util::AbstractList< URI >** (p. 158), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 158), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 158), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 158), **decaf::util::AbstractList< decaf::net::URI >** (p. 158), **decaf::util::AbstractList< Pointer< Command > >** (p. 158), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 158), **decaf::util::AbstractList< cms::Destination * >** (p. 158), **decaf::util::AbstractList< cms::Session * >** (p. 158), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 158), **decaf::util::AbstractList< cms::Connection * >** (p. 158), **decaf::util::AbstractQueue< Pointer< Transport > >** (p. 176), **decaf::util::ArrayList< ServiceListener * >** (p. 582), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 582), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1873), **decaf::util::LinkedList< CompositeTask * >** (p. 1873), **decaf::util::LinkedList< URI >** (p. 1873), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1873), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1873), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1873), **decaf::util::LinkedList< decaf::net::URI >** (p. 1873), **decaf::util::LinkedList< Pointer< Command > >** (p. 1873), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1873), **decaf::util::LinkedList< cms::Destination * >** (p. 1873), **decaf::util::LinkedList< cms::Session * >** (p. 1873), **decaf::util::LinkedList< cms::Connection * >** (p. 1873), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2879), and **decaf::util::StlSet< Resource * >** (p. 2879).

Referenced by decaf::util::concurrent::SynchronousQueue< E >::drainTo(), and decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::drainTo().

6.143.3.2 template<typename E> virtual bool decaf::util::Collection< E >::addAll (const Collection< E > & *collection*) [pure virtual]

Adds all of the elements in the specified collection to this collection. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (This implies that the behavior of this call is undefined if the specified collection is this collection, and this collection is nonempty.)

Parameters:

collection The **Collection** (p. 1000) whose elements are added to this one.

Returns:

true if this collection changed as a result of the call

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of an element prevents it from being added to this collection

IllegalStateException if an element cannot be added at this time due to insertion restrictions.

Implemented in **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 143).

6.143.3.3 template<typename E> virtual void decaf::util::Collection< E >::clear () [pure virtual]

Removes all of the elements from this collection (optional operation). This collection will be empty after this method returns unless it throws an exception.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

Implemented in **decaf::util::AbstractCollection< E >** (p. 144), **decaf::util::AbstractList< E >** (p. 160), **decaf::util::AbstractQueue< E >** (p. 177), **decaf::util::ArrayList< E >** (p. 583), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1203), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1218), **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1854), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2955), **decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet** (p. 1618), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet** (p. 1149), **decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet** (p. 1622), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet** (p. 1153), **decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection** (p. 1626), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection** (p. 1156), **decaf::util::LinkedList< E >** (p. 1875), **decaf::util::PriorityQueue< E >** (p. 2435), **decaf::util::StlList< E >** (p. 2846), **decaf::util::StlSet< E >** (p. 2879), **decaf::util::AbstractCollection< ServiceListener * >** (p. 144), **decaf::util::AbstractCollection< Pointer<**

Transport > > (p. 144), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 144), **decaf::util::AbstractCollection< Resource * >** (p. 144), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 144), **decaf::util::AbstractCollection< CompositeTask * >** (p. 144), **decaf::util::AbstractCollection< URI >** (p. 144), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 144), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 144), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 144), **decaf::util::AbstractCollection< V >** (p. 144), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 144), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 144), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 144), **decaf::util::AbstractCollection< cms::MessageProducer * >** (p. 144), **decaf::util::AbstractCollection< cms::Destination * >** (p. 144), **decaf::util::AbstractCollection< cms::Session * >** (p. 144), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 144), **decaf::util::AbstractCollection< cms::Connection * >** (p. 144), **decaf::util::AbstractCollection< K >** (p. 144), **decaf::util::AbstractList< ServiceListener * >** (p. 160), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 160), **decaf::util::AbstractList< CompositeTask * >** (p. 160), **decaf::util::AbstractList< URI >** (p. 160), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 160), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 160), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 160), **decaf::util::AbstractList< decaf::net::URI >** (p. 160), **decaf::util::AbstractList< Pointer< Command > >** (p. 160), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 160), **decaf::util::AbstractList< cms::Destination * >** (p. 160), **decaf::util::AbstractList< cms::Session * >** (p. 160), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 160), **decaf::util::AbstractList< cms::Connection * >** (p. 160), **decaf::util::AbstractQueue< Pointer< Transport > >** (p. 177), **decaf::util::ArrayList< ServiceListener * >** (p. 583), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 583), **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1854), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1875), **decaf::util::LinkedList< CompositeTask * >** (p. 1875), **decaf::util::LinkedList< URI >** (p. 1875), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1875), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1875), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1875), **decaf::util::LinkedList< decaf::net::URI >** (p. 1875), **decaf::util::LinkedList< Pointer< Command > >** (p. 1875), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1875), **decaf::util::LinkedList< cms::Destination * >** (p. 1875), **decaf::util::LinkedList< cms::Session * >** (p. 1875), **decaf::util::LinkedList< cms::Connection * >** (p. 1875), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2879), and **decaf::util::StlSet< Resource * >** (p. 2879).

6.143.3.4 template<typename E> virtual bool decaf::util::Collection< E >::contains (const E & *value*) const [pure virtual]

Returns true if this collection contains the specified element. More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).

Implemented in **decaf::util::AbstractCollection< E >** (p. 145), **decaf::util::ArrayList< E >** (p. 584), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1203), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1219), **decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet** (p. 1622), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet** (p. 1153), **decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection** (p. 1626), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection** (p. 1156), **decaf::util::LinkedList< E >** (p. 1876), **decaf::util::StlList< E >** (p. 2846), **decaf::util::StlSet< E >** (p. 2880), **decaf::util::AbstractCollection< ServiceListener * >** (p. 145), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 145), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 145), **decaf::util::AbstractCollection< Resource * >** (p. 145), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 145), **decaf::util::AbstractCollection< CompositeTask * >** (p. 145), **decaf::util::AbstractCollection< URI >** (p. 145), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 145), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 145), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 145), **decaf::util::AbstractCollection< V >** (p. 145), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 145), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 145), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 145), **decaf::util::AbstractCollection< cms::MessageProducer * >** (p. 145), **decaf::util::AbstractCollection< cms::Destination * >** (p. 145), **decaf::util::AbstractCollection< cms::Session * >** (p. 145), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 145), **decaf::util::AbstractCollection< cms::Connection * >** (p. 145), **decaf::util::AbstractCollection< K >** (p. 145), **decaf::util::ArrayList< ServiceListener * >** (p. 584), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 584), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1876), **decaf::util::LinkedList< CompositeTask * >** (p. 1876), **decaf::util::LinkedList< URI >** (p. 1876), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1876), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1876), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1876), **decaf::util::LinkedList< decaf::net::URI >** (p. 1876), **decaf::util::LinkedList< Pointer< Command > >** (p. 1876), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1876), **decaf::util::LinkedList< cms::Destination * >** (p. 1876), **decaf::util::LinkedList< cms::Session * >** (p. 1876), **decaf::util::LinkedList< cms::Connection * >** (p. 1876), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2880), and **decaf::util::StlSet< Resource * >** (p. 2880).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAll(), decaf::util::AbstractSet< K >::removeAll(), decaf::util::AbstractCollection< K >::removeAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::retainAll(), and decaf::util::AbstractCollection< K >::retainAll().

6.143.3.5 template<typename E> virtual bool decaf::util::Collection< E >::containsAll (const Collection< E > & *collection*) const [pure virtual]

Returns true if this collection contains all of the elements in the specified collection.

Parameters:

collection The **Collection** (p. 1000) to compare to this one.

Exceptions:

NullPointerException if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).

Implemented in **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 146).

6.143.3.6 template<typename E> virtual void decaf::util::Collection< E >::copy (const Collection< E > & *collection*) [pure virtual]

Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000).

Parameters:

collection The collection to mirror.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

IllegalStateException if the elements cannot be added at this time due to insertion restrictions.

Implemented in **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 146).

6.143.3.7 template<typename E> virtual bool decaf::util::Collection< E >::equals (const Collection< E > & *value*) const [pure virtual]

Compares the passed collection to this one, if they contain the same elements, i.e. all their elements are equivalent, then it returns true.

Returns:

true if the **Collections** (p. 1012) contain the same elements.

Implemented in **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 147).

6.143.3.8 template<typename E> virtual bool decaf::util::Collection< E >::isEmpty () const [pure virtual]

Returns:

true if this collection contains no elements.

Implemented in **decaf::util::AbstractCollection< E >** (p. 147), **decaf::util::ArrayList< E >** (p. 585), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1206), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1220), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2957), **decaf::util::LinkedList< E >** (p. 1879), **decaf::util::StlList< E >** (p. 2848), **decaf::util::StlSet< E >** (p. 2881), **decaf::util::AbstractCollection< ServiceListener * >** (p. 147), **decaf::util::AbstractCollection< Pointer<**

Transport > > (p. 147), **decaf::util::AbstractCollection**< **Pointer**< **Synchronization** > > (p. 147), **decaf::util::AbstractCollection**< **Resource** * > (p. 147), **decaf::util::AbstractCollection**< **cms::MessageConsumer** * > (p. 147), **decaf::util::AbstractCollection**< **CompositeTask** * > (p. 147), **decaf::util::AbstractCollection**< **URI** > (p. 147), **decaf::util::AbstractCollection**< **Pointer**< **MessageDispatch** > > (p. 147), **decaf::util::AbstractCollection**< **Pointer**< **DestinationInfo** > > (p. 147), **decaf::util::AbstractCollection**< **PrimitiveValueNode** > (p. 147), **decaf::util::AbstractCollection**< **V** > (p. 147), **decaf::util::AbstractCollection**< **MapEntry**< **K, V** > > (p. 147), **decaf::util::AbstractCollection**< **decaf::net::URI** > (p. 147), **decaf::util::AbstractCollection**< **Pointer**< **Command** > > (p. 147), **decaf::util::AbstractCollection**< **cms::MessageProducer** * > (p. 147), **decaf::util::AbstractCollection**< **cms::Destination** * > (p. 147), **decaf::util::AbstractCollection**< **cms::Session** * > (p. 147), **decaf::util::AbstractCollection**< **Pointer**< **ActiveMQDestination** > > (p. 147), **decaf::util::AbstractCollection**< **cms::Connection** * > (p. 147), **decaf::util::AbstractCollection**< **K** > (p. 147), **decaf::util::ArrayList**< **ServiceListener** * > (p. 585), **decaf::util::ArrayList**< **Pointer**< **ActiveMQDestination** > > (p. 585), **decaf::util::LinkedList**< **cms::MessageConsumer** * > (p. 1879), **decaf::util::LinkedList**< **CompositeTask** * > (p. 1879), **decaf::util::LinkedList**< **URI** > (p. 1879), **decaf::util::LinkedList**< **Pointer**< **MessageDispatch** > > (p. 1879), **decaf::util::LinkedList**< **Pointer**< **DestinationInfo** > > (p. 1879), **decaf::util::LinkedList**< **PrimitiveValueNode** > (p. 1879), **decaf::util::LinkedList**< **decaf::net::URI** > (p. 1879), **decaf::util::LinkedList**< **Pointer**< **Command** > > (p. 1879), **decaf::util::LinkedList**< **cms::MessageProducer** * > (p. 1879), **decaf::util::LinkedList**< **cms::Destination** * > (p. 1879), **decaf::util::LinkedList**< **cms::Session** * > (p. 1879), **decaf::util::LinkedList**< **cms::Connection** * > (p. 1879), **decaf::util::StlSet**< **Pointer**< **Synchronization** > > (p. 2881), and **decaf::util::StlSet**< **Resource** * > (p. 2881).

Referenced by decaf::util::StlList< E >::addAll(), decaf::util::AbstractList< cms::Connection * >::addAll(), decaf::util::concurrent::SynchronousQueue< E >::containsAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAll(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::retainAll().

6.143.3.9 template<typename E> virtual bool decaf::util::Collection< E >::remove (const E & *value*) [pure virtual]

Removes a single instance of the specified element from the collection. More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implemented in **decaf::util::AbstractCollection< E >** (p. 149), **decaf::util::ArrayList< E >** (p. 586), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1209), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1221), **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1859), **decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet** (p. 1619), **decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet** (p. 1623), **decaf::util::LinkedList< E >** (p. 1884), **decaf::util::PriorityQueue< E >** (p. 2437), **decaf::util::StlList< E >** (p. 2850), **decaf::util::StlSet< E >** (p. 2881), **decaf::util::AbstractCollection< ServiceListener * >** (p. 149), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 149), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 149), **decaf::util::AbstractCollection< Resource * >** (p. 149), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 149), **decaf::util::AbstractCollection< CompositeTask * >** (p. 149), **decaf::util::AbstractCollection< URI >** (p. 149), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 149), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 149), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 149), **decaf::util::AbstractCollection< V >** (p. 149), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 149), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 149), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 149), **decaf::util::AbstractCollection< cms::MessageProducer * >** (p. 149), **decaf::util::AbstractCollection< cms::Destination * >** (p. 149), **decaf::util::AbstractCollection< cms::Session * >** (p. 149), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 149), **decaf::util::AbstractCollection< cms::Connection * >** (p. 149), **decaf::util::AbstractCollection< K >** (p. 149), **decaf::util::ArrayList< ServiceListener * >** (p. 586), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 586), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1884), **decaf::util::LinkedList< CompositeTask * >** (p. 1884), **decaf::util::LinkedList< URI >** (p. 1884), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1884), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1884), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1884), **decaf::util::LinkedList< decaf::net::URI >** (p. 1884), **decaf::util::LinkedList< Pointer< Command > >** (p. 1884), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1884), **decaf::util::LinkedList< cms::Destination * >** (p. 1884), **decaf::util::LinkedList< cms::Session * >** (p. 1884), **decaf::util::LinkedList< cms::Connection * >** (p. 1884), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2881), and **decaf::util::StlSet< Resource * >** (p. 2881).

6.143.3.10 template<typename E> virtual bool decaf::util::Collection< E >::removeAll (const Collection< E > & *collection*) [pure virtual]

Removes all this collection's elements that are also contained in the specified collection (optional operation). After this call returns, this collection will contain no elements in common with the specified collection.

Parameters:

collection The **Collection** (p. 1000) whose elements are to be removed from this one.

Returns:

true if the collection changed as a result of this call.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implemented in **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 150), and **decaf::util::AbstractSet< MapEntry< K, V > >** (p. 199).

6.143.3.11 template<typename E> virtual bool decaf::util::Collection< E >::retainAll (const Collection< E > & *collection*) [pure virtual]

Retains only the elements in this collection that are contained in the specified collection (optional operation). In other words, removes from this collection all of its elements that are not contained in the specified collection.

Parameters:

collection The **Collection** (p. 1000) whose elements are to be retained.

Returns:

true if the collection changed as a result of this call.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implemented in **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 150).

6.143.3.12 template<typename E> virtual int decaf::util::Collection< E >::size () const [pure virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implemented in **decaf::util::ArrayList< E >** (p. 588), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1211), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1223), **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1860), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2961), **decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet** (p. 1620), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet** (p. 1150), **decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet** (p. 1624), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet** (p. 1154), **decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection** (p. 1627), **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection** (p. 1157), **decaf::util::LinkedList< E >** (p. 1887), **decaf::util::PriorityQueue< E >** (p. 2438), **decaf::util::StlList< E >** (p. 2851), **decaf::util::StlSet< E >** (p. 2882), **decaf::util::ArrayList< ServiceListener * >** (p. 588), **decaf::util::ArrayList< Pointer< ActiveMQDestination >**

> (p. 588), **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1860), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1887), **decaf::util::LinkedList< CompositeTask * >** (p. 1887), **decaf::util::LinkedList< URI >** (p. 1887), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1887), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1887), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1887), **decaf::util::LinkedList< decaf::net::URI >** (p. 1887), **decaf::util::LinkedList< Pointer< Command > >** (p. 1887), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1887), **decaf::util::LinkedList< cms::Destination * >** (p. 1887), **decaf::util::LinkedList< cms::Session * >** (p. 1887), **decaf::util::LinkedList< cms::Connection * >** (p. 1887), **decaf::util::StlSet< Pointer< Synchronization > >** (p. 2882), and **decaf::util::StlSet< Resource * >** (p. 2882).

Referenced by decaf::util::AbstractList< cms::Connection * >::add(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll(), decaf::util::ArrayList< Pointer< ActiveMQDestination > >::addAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent(), decaf::util::ArrayList< Pointer< ActiveMQDestination > >::ArrayList(), decaf::util::AbstractList< cms::Connection * >::clear(), decaf::util::concurrent::CopyOnWriteArraySet< E >::equals(), decaf::util::concurrent::CopyOnWriteArrayList< E >::equals(), decaf::util::AbstractCollection< K >::equals(), decaf::util::AbstractCollection< K >::isEmpty(), decaf::util::AbstractList< cms::Connection * >::lastIndexOf(), decaf::util::AbstractSet< K >::removeAll(), decaf::util::Collections::reverse(), and decaf::util::AbstractCollection< K >::toArray().

6.143.3.13 template<typename E> virtual std::vector<E> decaf::util::Collection< E >::toArray () const [pure virtual]

Returns an array containing all of the elements in this collection. If the collection makes any guarantees as to what order its elements are returned by its iterator, this method must return the elements in the same order.

This method acts as bridge between array-based and collection-based APIs.

Returns:

an array of the elements in this collection in the form of an STL vector.

Implemented in **decaf::util::AbstractCollection< E >** (p. 150), **decaf::util::ArrayList< E >** (p. 588), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1212), **decaf::util::concurrent::CopyOnWriteArraySet< E >** (p. 1223), **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1861), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2961), **decaf::util::LinkedList< E >** (p. 1887), **decaf::util::AbstractCollection< ServiceListener * >** (p. 150), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 150), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 150), **decaf::util::AbstractCollection< Resource * >** (p. 150), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 150), **decaf::util::AbstractCollection< CompositeTask * >** (p. 150), **decaf::util::AbstractCollection< URI >** (p. 150), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 150), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 150), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 150), **decaf::util::AbstractCollection< V >** (p. 150), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 150), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 150), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 150), **decaf::util::AbstractCollection< cms::MessageProducer**

∗ > (p. 150), **decaf::util::AbstractCollection< cms::Destination ∗ >** (p. 150), **decaf::util::AbstractCollection< cms::Session ∗ >** (p. 150), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 150), **decaf::util::AbstractCollection< cms::Connection ∗ >** (p. 150), **decaf::util::AbstractCollection< K >** (p. 150), **decaf::util::ArrayList< ServiceListener ∗ >** (p. 588), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 588), **decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >** (p. 1861), **decaf::util::LinkedList< cms::MessageConsumer ∗ >** (p. 1887), **decaf::util::LinkedList< CompositeTask ∗ >** (p. 1887), **decaf::util::LinkedList< URI >** (p. 1887), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1887), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1887), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1887), **decaf::util::LinkedList< decaf::net::URI >** (p. 1887), **decaf::util::LinkedList< Pointer< Command > >** (p. 1887), **decaf::util::LinkedList< cms::MessageProducer ∗ >** (p. 1887), **decaf::util::LinkedList< cms::Destination ∗ >** (p. 1887), **decaf::util::LinkedList< cms::Session ∗ >** (p. 1887), and **decaf::util::LinkedList< cms::Connection ∗ >** (p. 1887).

Referenced by decaf::util::StlList< E >::addAll(), and decaf::util::ArrayList< Pointer< ActiveMQDestination > >::addAll().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Collection.h**

6.144 decaf::util::Collections Class Reference

`#include <src/main/decaf/util/Collections.h>`

Static Public Member Functions

- template<typename E >
  static void **reverse** (**List**< E > &list)

  *Modifies the specified **List** (p. 1889) by reversing the order of the elements.*

6.144.1 Member Function Documentation

6.144.1.1 template<typename E > static void decaf::util::Collections::reverse (List< E > & *list*) [inline, static]

Modifies the specified **List** (p. 1889) by reversing the order of the elements.

Parameters:

list The list to reverse.

Exceptions:

UnsupportedOperationException when replacing an element in the **List** (p. 1889) is not supported.

References decaf::util::List< E >::listIterator(), and decaf::util::Collection< E >::size().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Collections.h**

6.145 activemq::commands::Command Class Reference

`#include <src/main/activemq/commands/Command.h>`Inheritance diagram for activemq::commands::Command:

Public Member Functions

- virtual ~**Command** ()
- virtual void **setCommandId** (int id)=0

  *Sets the **Command** (p. 1013) Id of this **Message** (p. 2059).*

- virtual int **getCommandId** () const =0

  *Gets the **Command** (p. 1013) Id of this **Message** (p. 2059).*

- virtual void **setResponseRequired** (const bool required)=0

  *Set if this **Message** (p. 2059) requires a **Response** (p. 2591).*

- virtual bool **isResponseRequired** () const =0

  *Is a **Response** (p. 2591) required for this **Command** (p. 1013).*

- virtual std::string **toString** () const =0

  Returns a provider-specific string that provides information about the contents of the command.

- virtual **decaf::lang::Pointer< commands::Command > visit** (**activemq::state::CommandVisitor** *visitor)=0

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

- virtual bool **isBrokerInfo** () const =0
- virtual bool **isControlCommand** () const =0
- virtual bool **isConnectionControl** () const =0
- virtual bool **isConnectionInfo** () const =0
- virtual bool **isConnectionError** () const =0
- virtual bool **isConsumerInfo** () const =0
- virtual bool **isConsumerControl** () const =0
- virtual bool **isDestinationInfo** () const =0
- virtual bool **isFlushCommand** () const =0
- virtual bool **isKeepAliveInfo** () const =0
- virtual bool **isMessage** () const =0
- virtual bool **isMessageAck** () const =0
- virtual bool **isMessagePull** () const =0
- virtual bool **isMessageDispatch** () const =0
- virtual bool **isMessageDispatchNotification** () const =0
- virtual bool **isProducerAck** () const =0
- virtual bool **isProducerInfo** () const =0
- virtual bool **isResponse** () const =0
- virtual bool **isReplayCommand** () const =0
- virtual bool **isRemoveInfo** () const =0

- virtual bool **isRemoveSubscriptionInfo** () const =0
- virtual bool **isSessionInfo** () const =0
- virtual bool **isShutdownInfo** () const =0
- virtual bool **isTransactionInfo** () const =0
- virtual bool **isWireFormatInfo** () const =0

6.145.1 Constructor & Destructor Documentation

6.145.1.1 virtual activemq::commands::Command::~Command () [inline, virtual]

6.145.2 Member Function Documentation

6.145.2.1 virtual int activemq::commands::Command::getCommandId () const [pure virtual]

Gets the **Command** (p. 1013) Id of this **Message** (p. 2059).

Returns:

Command (p. 1013) Id

Implemented in **activemq::commands::BaseCommand** (p. 630).

6.145.2.2 virtual bool activemq::commands::Command::isBrokerInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 631), and **activemq::commands::BrokerInfo** (p. 721).

6.145.2.3 virtual bool activemq::commands::Command::isConnectionControl () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 631), and **activemq::commands::ConnectionControl** (p. 1093).

6.145.2.4 virtual bool activemq::commands::Command::isConnectionError () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 631), and **activemq::commands::ConnectionError** (p. 1102).

6.145.2.5 virtual bool activemq::commands::Command::isConnectionInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 631), and **activemq::commands::ConnectionInfo** (p. 1127).

6.145.2.6 virtual bool activemq::commands::Command::isConsumerControl () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 631), and **activemq::commands::ConsumerControl** (p. 1160).

6.145.2.7 virtual bool activemq::commands::Command::isConsumerInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 631), and **activemq::commands::ConsumerInfo** (p. 1180).

6.145.2.8 virtual bool activemq::commands::Command::isControlCommand () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 631), and **activemq::commands::ControlCommand** (p. 1192).

6.145.2.9 virtual bool activemq::commands::Command::isDestinationInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 632).

6.145.2.10 virtual bool activemq::commands::Command::isFlushCommand () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 632), and **activemq::commands::FlushCommand** (p. 1551).

6.145.2.11 virtual bool activemq::commands::Command::isKeepAliveInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 632), and **activemq::commands::KeepAliveInfo** (p. 1822).

6.145.2.12 virtual bool activemq::commands::Command::isMessage () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 632), and **activemq::commands::Message** (p. 2070).

6.145.2.13 virtual bool activemq::commands::Command::isMessageAck () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 632), and **activemq::commands::MessageAck** (p. 2106).

6.145.2.14 virtual bool activemq::commands::Command::isMessageDispatch () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 632), and **activemq::commands::MessageDispatch** (p. 2134).

6.145.2.15 virtual bool activemq::commands::Command::isMessageDispatchNotification () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 632), and **activemq::commands::MessageDispatchNotification** (p. 2148).

6.145.2.16 virtual bool activemq::commands::Command::isMessagePull () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 632), and **activemq::commands::MessagePull** (p. 2199).

6.145.2.17 virtual bool activemq::commands::Command::isProducerAck () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 633), and **activemq::commands::ProducerAck** (p. 2443).

6.145.2.18 virtual bool activemq::commands::Command::isProducerInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 633), and **activemq::commands::ProducerInfo** (p. 2463).

6.145.2.19 virtual bool activemq::commands::Command::isRemoveInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 633), and **activemq::commands::RemoveInfo** (p. 2559).

6.145.2.20 virtual bool activemq::commands::Command::isRemoveSubscriptionInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 633), and **activemq::commands::RemoveSubscriptionInfo** (p. 2567).

6.145.2.21 virtual bool activemq::commands::Command::isReplayCommand () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 633), and **activemq::commands::ReplayCommand** (p. 2576).

6.145.2.22 virtual bool activemq::commands::Command::isResponse () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 633), and **activemq::commands::Response** (p. 2593).

6.145.2.23 virtual bool activemq::commands::Command::isResponseRequired () const [pure virtual]

Is a **Response** (p. 2591) required for this **Command** (p. 1013).

Returns:

true if a response is required.

Implemented in **activemq::commands::BaseCommand** (p. 633).

6.145.2.24 virtual bool activemq::commands::Command::isSessionInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 634).

6.145.2.25 virtual bool activemq::commands::Command::isShutdownInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 634), and **activemq::commands::ShutdownInfo** (p. 2735).

6.145.2.26 virtual bool activemq::commands::Command::isTransactionInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 634), and **activemq::commands::TransactionInfo** (p. 3092).

6.145.2.27 virtual bool activemq::commands::Command::isWireFormatInfo () const [pure virtual]

Implemented in **activemq::commands::BaseCommand** (p. 634), and **activemq::commands::WireFormatInfo** (p. 3223).

6.145.2.28 virtual void activemq::commands::Command::setCommandId (int *id*) [pure virtual]

Sets the **Command** (p. 1013) Id of this **Message** (p. 2059).

Parameters:

id **Command** (p. 1013) Id

Implemented in **activemq::commands::BaseCommand** (p. 634).

6.145.2.29 virtual void activemq::commands::Command::setResponseRequired (const bool *required*) [pure virtual]

Set if this **Message** (p. 2059) requires a **Response** (p. 2591).

Parameters:

required true if response is required

Implemented in **activemq::commands::BaseCommand** (p. 634).

6.145.2.30 virtual std::string activemq::commands::Command::toString () const [pure virtual]

Returns a provider-specific string that provides information about the contents of the command.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

Implemented in **activemq::commands::ActiveMQBlobMessage** (p. 207), **activemq::commands::ActiveMQBytesMessage** (p. 223), **activemq::commands::ActiveMQMapMessage** (p. 353), **activemq::commands::ActiveMQMessage** (p. 361), **activemq::commands::ActiveMQObjectMessage** (p. 382), **activemq::commands::ActiveMQStreamMessage** (p. 478), **activemq::commands::ActiveMQTextMessage** (p. 516), **activemq::commands::BaseCommand** (p. 635), **activemq::commands::BrokerInfo** (p. 722), **activemq::commands::ConnectionControl** (p. 1094), **activemq::commands::ConnectionError** (p. 1102), **activemq::commands::ConnectionInfo** (p. 1128), **activemq::commands::ConsumerControl** (p. 1161), **activemq::commands::ConsumerInfo** (p. 1181), **activemq::commands::ControlCommand** (p. 1192), **activemq::commands::DataArrayResponse** (p. 1234), **activemq::commands::DataResponse** (p. 1276), **activemq::commands::DestinationInfo** (p. 1378), **activemq::commands::ExceptionResponse** (p. 1455), **activemq::commands::FlushCommand** (p. 1551), **activemq::commands::IntegerResponse** (p. 1742), **activemq::commands::KeepAliveInfo** (p. 1822), **activemq::commands::Message** (p. 2073), **activemq::commands::MessageAck** (p. 2107), **activemq::commands::MessageDispatch** (p. 2135), **activemq::commands::MessageDispatchNotification** (p. 2149), **activemq::commands::MessagePull** (p. 2200), **activemq::commands::ProducerAck** (p. 2443), **activemq::commands::ProducerInfo** (p. 2464), **activemq::commands::RemoveInfo** (p. 2559), **activemq::commands::RemoveSubscriptionInfo** (p. 2568), **activemq::commands::ReplayCommand** (p. 2576), **activemq::commands::Response** (p. 2593), **activemq::commands::SessionInfo** (p. 2690), **activemq::commands::ShutdownInfo** (p. 2735), **activemq::commands::TransactionInfo** (p. 3092), and **activemq::commands::WireFormatInfo** (p. 3225).

6.145.2.31 virtual decaf::lang::Pointer<commands::Command> activemq::commands::Command::visit (activemq::state::CommandVisitor * *visitor*) [pure virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implemented in **activemq::commands::BrokerError** (p. 707), **activemq::commands::BrokerInfo** (p. 723), **activemq::commands::ConnectionControl** (p. 1095), **activemq::commands::ConnectionError** (p. 1102), **activemq::commands::ConnectionInfo** (p. 1129), **activemq::commands::ConsumerControl** (p. 1161), **activemq::commands::ConsumerInfo** (p. 1182), **activemq::commands::ControlCommand** (p. 1192), **activemq::commands::DestinationInfo** (p. 1378), **activemq::commands::FlushCommand** (p. 1551), **activemq::commands::KeepAliveInfo** (p. 1823), **activemq::commands::Message** (p. 2074), **activemq::commands::MessageAck** (p. 2107), **activemq::commands::MessageDispatch** (p. 2135), **activemq::commands::MessageDispatchNotification** (p. 2149), **activemq::commands::MessagePull** (p. 2200), **activemq::commands::ProducerAck** (p. 2443), **activemq::commands::ProducerInfo** (p. 2464), **activemq::commands::RemoveInfo** (p. 2559), **activemq::commands::RemoveSubscriptionInfo** (p. 2568), **activemq::commands::ReplayCommand** (p. 2576), **activemq::commands::Response** (p. 2593), **activemq::commands::SessionInfo** (p. 2690), **activemq::commands::ShutdownInfo** (p. 2736), **activemq::commands::TransactionInfo** (p. 3092), and **activemq::commands::WireFormatInfo** (p. 3226).

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**Command.h**

6.146 activemq::state::CommandVisitor Class Reference

Interface for an Object that can visit the various Command Objects that are sent from and to this client.

`#include <src/main/activemq/state/CommandVisitor.h>`Inheritance diagram for activemq::state::CommandVisitor:

Public Member Functions

- virtual **~CommandVisitor** ()
- virtual **decaf::lang::Pointer< commands::Command > processTransactionInfo** (**commands::TransactionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processRemoveInfo** (**commands::RemoveInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processConnectionInfo** (**commands::ConnectionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processSessionInfo** (**commands::SessionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processProducerInfo** (**commands::ProducerInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processConsumerInfo** (**commands::ConsumerInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processRemoveConnection** (**commands::ConnectionId** *id)=0
- virtual **decaf::lang::Pointer< commands::Command > processRemoveSession** (**commands::SessionId** *id)=0
- virtual **decaf::lang::Pointer< commands::Command > processRemoveProducer** (**commands::ProducerId** *id)=0
- virtual **decaf::lang::Pointer< commands::Command > processRemoveConsumer** (**commands::ConsumerId** *id)=0
- virtual **decaf::lang::Pointer< commands::Command > processDestinationInfo** (**commands::DestinationInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processRemoveDestination** (**commands::DestinationInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processRemoveSubscriptionInfo** (**commands::RemoveSubscriptionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processMessage** (**commands::Message** *send)=0
- virtual **decaf::lang::Pointer< commands::Command > processMessageAck** (**commands::MessageAck** *ack)=0
- virtual **decaf::lang::Pointer< commands::Command > processMessagePull** (**commands::MessagePull** *pull)=0
- virtual **decaf::lang::Pointer< commands::Command > processBeginTransaction** (**commands::TransactionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processPrepareTransaction** (**commands::TransactionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processCommitTransactionOnePhase** (**commands::TransactionInfo** *info)=0

- virtual **decaf::lang::Pointer< commands::Command > processCommitTransactionTwoPhase** (**commands::TransactionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processRollbackTransaction** (**commands::TransactionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processWireFormat** (**commands::WireFormatInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processKeepAliveInfo** (**commands::KeepAliveInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processShutdownInfo** (**commands::ShutdownInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processFlushCommand** (**commands::FlushCommand** *command)=0
- virtual **decaf::lang::Pointer< commands::Command > processBrokerInfo** (**commands::BrokerInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processRecoverTransactions** (**commands::TransactionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processForgetTransaction** (**commands::TransactionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processEndTransaction** (**commands::TransactionInfo** *info)=0
- virtual **decaf::lang::Pointer< commands::Command > processMessageDispatchNotification** (**commands::MessageDispatchNotification** *notification)=0
- virtual **decaf::lang::Pointer< commands::Command > processProducerAck** (**commands::ProducerAck** *ack)=0
- virtual **decaf::lang::Pointer< commands::Command > processMessageDispatch** (**commands::MessageDispatch** *dispatch)=0
- virtual **decaf::lang::Pointer< commands::Command > processControlCommand** (**commands::ControlCommand** *command)=0
- virtual **decaf::lang::Pointer< commands::Command > processConnectionError** (**commands::ConnectionError** *error)=0
- virtual **decaf::lang::Pointer< commands::Command > processConnectionControl** (**commands::ConnectionControl** *control)=0
- virtual **decaf::lang::Pointer< commands::Command > processConsumerControl** (**commands::ConsumerControl** *control)=0
- virtual **decaf::lang::Pointer< commands::Command > processBrokerError** (**commands::BrokerError** *error)=0
- virtual **decaf::lang::Pointer< commands::Command > processReplayCommand** (**commands::ReplayCommand** *replay)=0
- virtual **decaf::lang::Pointer< commands::Command > processResponse** (**commands::Response** *response)=0

6.146.1 Detailed Description

Interface for an Object that can visit the various Command Objects that are sent from and to this client. The Commands themselves implement a `visit` method that is called with an instance of this interface and each one then call the appropriate `processXXX` method.

Since:

3.0

6.146.2 Constructor & Destructor Documentation

6.146.2.1 virtual activemq::state::CommandVisitor::~CommandVisitor () [virtual]

6.146.3 Member Function Documentation

6.146.3.1 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processBeginTransaction (commands::TransactionInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1143).

6.146.3.2 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processBrokerError (commands::BrokerError * *error*) [pure virtual]

6.146.3.3 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processBrokerInfo (commands::BrokerInfo * *info*) [pure virtual]

6.146.3.4 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processCommitTransactionOnePhase (commands::TransactionInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1144).

6.146.3.5 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processCommitTransactionTwoPhase (commands::TransactionInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1144).

6.146.3.6 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processConnectionControl (commands::ConnectionControl * *control*) [pure virtual]

6.146.3.7 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processConnectionError (commands::ConnectionError * *error*) [pure virtual]

6.146.3.8 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processConnectionInfo (commands::ConnectionInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1144).

6.146.3.9 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processConsumerControl (commands::ConsumerControl * *control*) [pure virtual]

6.146.3.10 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processConsumerInfo (commands::ConsumerInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1144).

6.146.3.11 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processControlCommand (commands::ControlCommand * *command*) [pure virtual]

6.146.3.12 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processDestinationInfo (commands::DestinationInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1144).

6.146.3.13 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processEndTransaction (commands::TransactionInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1144).

6.146.3.14 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processFlushCommand (commands::FlushCommand * *command*) [pure virtual]

6.146.3.15 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processForgetTransaction (commands::TransactionInfo * *info*) [pure virtual]

6.146.3.16 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processKeepAliveInfo (commands::KeepAliveInfo * *info*) [pure virtual]

6.146.3.17 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processMessage (commands::Message * *send*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1144).

6.146.3.18 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processMessageAck (commands::MessageAck * *ack*) [pure virtual]

6.146.3.19 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processMessageDispatch (commands::MessageDispatch * *dispatch*) [pure virtual]

6.146.3.20 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processMessageDispatchNotification (commands::MessageDispatchNotification * *notification*) [pure virtual]

6.146.3.21 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processMessagePull (commands::MessagePull * *pull*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1144).

6.146.3.22 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processPrepareTransaction (commands::TransactionInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1145).

6.146.3.23 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processProducerAck (commands::ProducerAck * *ack*) [pure virtual]

6.146.3.24 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processProducerInfo (commands::ProducerInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1145).

6.146.3.25 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processRecoverTransactions (commands::TransactionInfo * *info*) [pure virtual]

6.146.3.26 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processRemoveConnection (commands::ConnectionId * *id*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1145).

6.146.3.27 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processRemoveConsumer (commands::ConsumerId * *id*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1145).

6.146.3.28 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processRemoveDestination (commands::DestinationInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1145).

6.146.3.29 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processRemoveInfo (commands::RemoveInfo * *info*) [pure virtual]

Implemented in **activemq::state::CommandVisitorAdapter** (p. 1029).

6.146.3.30 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processRemoveProducer (commands::ProducerId * *id*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1145).

6.146.3.31 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processRemoveSession (commands::SessionId * *id*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1145).

6.146.3.32 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processRemoveSubscriptionInfo (commands::RemoveSubscriptionInfo * *info*) [pure virtual]

6.146.3.33 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processReplayCommand (commands::ReplayCommand * *replay*) [pure virtual]

6.146.3.34 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processResponse (commands::Response * *response*) [pure virtual]

6.146.3.35 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processRollbackTransaction (commands::TransactionInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1145).

6.146.3.36 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processSessionInfo (commands::SessionInfo * *info*) [pure virtual]

Implemented in **activemq::state::ConnectionStateTracker** (p. 1146).

6.146.3.37 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processShutdownInfo (commands::ShutdownInfo * *info*) [pure virtual]

6.146.3.38 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processTransactionInfo (commands::TransactionInfo * *info*) [pure virtual]

Implemented in **activemq::state::CommandVisitorAdapter** (p. 1030).

6.146.3.39 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitor::processWireFormat (commands::WireFormatInfo * *info*) [pure virtual]

The documentation for this class was generated from the following file:

- src/main/activemq/state/**CommandVisitor.h**

6.147 activemq::state::CommandVisitorAdapter Class Reference

Default Implementation of a **CommandVisitor** (p. 1020) that returns NULL for all calls.

`#include <src/main/activemq/state/CommandVisitorAdapter.h>`Inheritance diagram for activemq::state::CommandVisitorAdapter:

Public Member Functions

- virtual ~**CommandVisitorAdapter** ()
- virtual **decaf::lang::Pointer< commands::Command > processRemoveConnection** (**commands::ConnectionId** *id AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processRemoveSession** (**commands::SessionId** *id AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processRemoveProducer** (**commands::ProducerId** *id AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processRemoveConsumer** (**commands::ConsumerId** *id AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processDestinationInfo** (**commands::DestinationInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processRemoveDestination** (**commands::DestinationInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processRemoveSubscriptionInfo** (**commands::RemoveSubscriptionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processMessage** (**commands::Message** *send AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processMessageAck** (**commands::MessageAck** *ack AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processMessagePull** (**commands::MessagePull** *pull AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processBeginTransaction** (**commands::TransactionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processPrepareTransaction** (**commands::TransactionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processCommitTransactionOnePhase** (**commands::TransactionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processCommitTransactionTwoPhase** (**commands::TransactionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processRollbackTransaction** (**commands::TransactionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processWireFormat** (**commands::WireFormatInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processKeepAliveInfo** (**commands::KeepAliveInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processShutdownInfo** (**commands::ShutdownInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processFlushCommand** (**commands::FlushCommand** *command AMQCPP_UNUSED)

- virtual **decaf::lang::Pointer< commands::Command > processBrokerInfo** (**commands::BrokerInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processRecoverTransactions** (**commands::TransactionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processForgetTransaction** (**commands::TransactionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processEndTransaction** (**commands::TransactionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processMessageDispatchNotification** (**commands::MessageDispatchNotification** *notification AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processProducerAck** (**commands::ProducerAck** *ack AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processMessageDispatch** (**commands::MessageDispatch** *dispatch AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processControlCommand** (**commands::ControlCommand** *command AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processConnectionError** (**commands::ConnectionError** *error AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processConnectionControl** (**commands::ConnectionControl** *control AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processConsumerControl** (**commands::ConsumerControl** *control AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processBrokerError** (**commands::BrokerError** *error AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processReplayCommand** (**commands::ReplayCommand** *replay AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processResponse** (**commands::Response** *response AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processConnectionInfo** (**commands::ConnectionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processSessionInfo** (**commands::SessionInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processProducerInfo** (**commands::ProducerInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processConsumerInfo** (**commands::ConsumerInfo** *info AMQCPP_UNUSED)
- virtual **decaf::lang::Pointer< commands::Command > processTransactionInfo** (**commands::TransactionInfo** *info)
- virtual **decaf::lang::Pointer< commands::Command > processRemoveInfo** (**commands::RemoveInfo** *info)

6.147.1 Detailed Description

Default Implementation of a **CommandVisitor** (p. 1020) that returns NULL for all calls.

Since:

3.0

6.147.2 Constructor & Destructor Documentation

6.147.2.1 virtual activemq::state::CommandVisitorAdapter::~CommandVisitorAdapter () [virtual]

6.147.3 Member Function Documentation

6.147.3.1 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processBeginTransaction (commands::TransactionInfo *info *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.2 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processBrokerError (commands::BrokerError *error *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.3 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processBrokerInfo (commands::BrokerInfo *info *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.4 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processCommitTransactionOnePhase (commands::TransactionInfo *info *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.5 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processCommitTransactionTwoPhase (commands::TransactionInfo *info *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.6 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processConnectionControl (commands::ConnectionControl *control *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.7 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processConnectionError (commands::ConnectionError *error *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.8 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processConnectionInfo (commands::ConnectionInfo *info *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.9 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processConsumerControl (commands::ConsumerControl *control *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.10 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processConsumerInfo (commands::ConsumerInfo *info *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.11 virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processControlCommand (commands::ControlCommand *command *AMQCPP_UNUSED*) [inline, virtual]

6.147.3.30 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processRemoveProducer (commands::ProducerId *id *AMQCPP_UNUSED*)** [inline, virtual]

6.147.3.31 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processRemoveSession (commands::SessionId *id *AMQCPP_UNUSED*)** [inline, virtual]

6.147.3.32 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processRemoveSubscriptionInfo (commands::RemoveSubscriptionInfo *info *AMQCPP_UNUSED*)** [inline, virtual]

6.147.3.33 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processReplayCommand (commands::ReplayCommand *replay *AMQCPP_UNUSED*)** [inline, virtual]

6.147.3.34 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processResponse (commands::Response *response *AMQCPP_UNUSED*)** [inline, virtual]

6.147.3.35 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processRollbackTransaction (commands::TransactionInfo *info *AMQCPP_UNUSED*)** [inline, virtual]

6.147.3.36 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processSessionInfo (commands::SessionInfo *info *AMQCPP_UNUSED*)** [inline, virtual]

6.147.3.37 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processShutdownInfo (commands::ShutdownInfo *info *AMQCPP_UNUSED*)** [inline, virtual]

6.147.3.38 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processTransactionInfo (commands::TransactionInfo * *info*)** [virtual]

Implements **activemq::state::CommandVisitor** (p. 1026).

6.147.3.39 **virtual decaf::lang::Pointer<commands::Command> activemq::state::CommandVisitorAdapter::processWireFormat (commands::WireFormatInfo *info *AMQCPP_UNUSED*)** [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/activemq/state/**CommandVisitorAdapter.h**

6.148 decaf::lang::Comparable< T > Class Template Reference

This interface imposes a total ordering on the objects of each class that implements it.

`#include <src/main/decaf/lang/Comparable.h>`

Public Member Functions

- virtual ~**Comparable** ()
- virtual int **compareTo** (const T &value) const =0

  Compares this object with the specified object for order.

- virtual bool **equals** (const T &value) const =0
- virtual bool **operator==** (const T &value) const =0

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const T &value) const =0

  Compares this object to another and returns true if this object is considered to be less than the one passed.

6.148.1 Detailed Description

template<typename T> class decaf::lang::Comparable< T >

This interface imposes a total ordering on the objects of each class that implements it. This ordering is referred to as the class's natural ordering, and the class's compareTo method is referred to as its natural comparison method.

6.148.2 Constructor & Destructor Documentation

6.148.2.1 template<typename T> virtual decaf::lang::Comparable< T >::~Comparable () [inline, virtual]

6.148.3 Member Function Documentation

6.148.3.1 template<typename T> virtual int decaf::lang::Comparable< T >::compareTo (const T & *value*) const [pure virtual]

Compares this object with the specified object for order. Returns a negative integer, zero, or a positive integer as this object is less than, equal to, or greater than the specified object.

In the foregoing description, the notation sgn(expression) designates the mathematical signum function, which is defined to return one of -1, 0, or 1 according to whether the value of expression is negative, zero or positive. The implementor must ensure sgn(x.compareTo(y)) == -sgn(y.compareTo(x)) for all x and y. (This implies that x.compareTo(y) must throw an exception iff y.compareTo(x) throws an exception.)

The implementor must also ensure that the relation is transitive: (x.compareTo(y)>0 && y.compareTo(z)>0) implies x.compareTo(z)>0.

Finally, the implementer must ensure that x.compareTo(y)==0 implies that sgn(x.compareTo(z)) == sgn(y.compareTo(z)), for all z.

It is strongly recommended, but not strictly required that (x.compareTo(y)==0) == (x.equals(y)). Generally speaking, any class that implements the **Comparable** (p. 1031) interface and violates this condition should clearly indicate this fact. The recommended language is "Note: this class has a natural ordering that is inconsistent with equals."

Parameters:

value - the Object to be compared.

Returns:

a negative integer, zero, or a positive integer as this object is less than, equal to, or greater than the specified object.

Implemented in **decaf::lang::Boolean** (p. 691), **decaf::lang::Byte** (p. 762), **decaf::lang::Character** (p. 910), **decaf::lang::Double** (p. 1405), **decaf::lang::Float** (p. 1521), **decaf::lang::Integer** (p. 1728), **decaf::lang::Long** (p. 1957), and **decaf::lang::Short** (p. 2708).

6.148.3.2 template<typename T> virtual bool decaf::lang::Comparable< T >::equals (const T & *value*) const [pure virtual]

Returns:

true if this value is considered equal to the passed value.

Implemented in **decaf::lang::Boolean** (p. 692), **decaf::lang::Byte** (p. 763), **decaf::lang::Character** (p. 911), **decaf::lang::Double** (p. 1407), **decaf::lang::Float** (p. 1522), **decaf::lang::Integer** (p. 1730), **decaf::lang::Long** (p. 1959), and **decaf::lang::Short** (p. 2709).

6.148.3.3 template<typename T> virtual bool decaf::lang::Comparable< T >::operator< (const T & *value*) const [pure virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implemented in **decaf::lang::Boolean** (p. 692), **decaf::lang::Byte** (p. 764), **decaf::lang::Character** (p. 913), **decaf::lang::Double** (p. 1409), **decaf::lang::Float** (p. 1524), **decaf::lang::Integer** (p. 1732), **decaf::lang::Long** (p. 1961), and **decaf::lang::Short** (p. 2710).

6.148.3.4 template<typename T> virtual bool decaf::lang::Comparable< T >::operator== (const T & *value*) const [pure virtual]

Compares equality between this object and the one passed.

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implemented in **decaf::lang::Boolean** (p. 693), **decaf::lang::Byte** (p. 765), **decaf::lang::Character** (p. 914), **decaf::lang::Double** (p. 1409), **decaf::lang::Float** (p. 1525), **decaf::lang::Integer** (p. 1732), **decaf::lang::Long** (p. 1961), and **decaf::lang::Short** (p. 2711).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Comparable.h**

6.149 decaf::util::Comparator< T > Class Template Reference

A comparison function, which imposes a total ordering on some collection of objects.

`#include <src/main/decaf/util/Comparator.h>`

Public Member Functions

- virtual ~**Comparator** ()
- virtual bool **operator()** (const T &left, const T &right) const =0

  *Implementation of the Binary function interface as a means of allowing a **Comparator** (p. 1034) to be passed to an STL **Map** (p. 1995) for use as the sorting criteria.*

- virtual int **compare** (const T &o1, const T &o2) const =0

  Compares its two arguments for order.

6.149.1 Detailed Description

template<typename T> class decaf::util::Comparator< T >

A comparison function, which imposes a total ordering on some collection of objects. Comparators can be passed to a sort method (such as Collections.sort) to allow precise control over the sort order. Comparators can also be used to control the order of certain data structures.

The ordering imposed by a **Comparator** (p. 1034) c on a set of elements S is said to be consistent with equals if and only if (compare(e1, e2) == 0) has the same boolean value as (e1 == e2) for every e1 and e2 in S.

Since:

1.0

6.149.2 Constructor & Destructor Documentation

6.149.2.1 template<typename T> virtual decaf::util::Comparator< T >::~Comparator () [inline, virtual]

6.149.3 Member Function Documentation

6.149.3.1 template<typename T> virtual int decaf::util::Comparator< T >::compare (const T & *o1*, const T & *o2*) const [pure virtual]

Compares its two arguments for order. Returns a negative integer, zero, or a positive integer as the first argument is less than, equal to, or greater than the second.

The implementor must ensure that sgn(compare(x, y)) == -sgn(compare(y, x)) for all x and y. (This implies that compare(x, y) must throw an exception if and only if compare(y, x) throws an exception.)

The implementor must also ensure that the relation is transitive: ((compare(x, y)>0) && (compare(y, z)>0)) implies compare(x, z)>0.

Finally, the implementer must ensure that compare(x, y)==0 implies that sgn(compare(x, z))==sgn(compare(y, z)) for all z.

It is generally the case, but not strictly required that (compare(x, y)==0) == (x == y)). Generally speaking, any comparator that violates this condition should clearly indicate this fact. The recommended language is "Note: this comparator imposes orderings that are inconsistent with equals."

Parameters:

o1 The first object to be compared

o2 The second object to be compared

Returns:

a negative integer, zero, or a positive integer as the first argument is less than, equal to, or greater than the second.

Implemented in **decaf::util::comparators::Less< E >** (p. 1842).

6.149.3.2 template<typename T> virtual bool decaf::util::Comparator< T >::operator() (const T & *left*, const T & *right*) const [pure virtual]

Implementation of the Binary function interface as a means of allowing a **Comparator** (p. 1034) to be passed to an STL **Map** (p. 1995) for use as the sorting criteria.

Parameters:

left The Left hand side operand.

right The Right hand side operand.

Returns:

true if the vale of left is less than the value of right.

Implemented in **decaf::util::comparators::Less< E >** (p. 1843).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Comparator.h**

6.150 decaf::internal::util::concurrent::CompletionCondition Class Reference

`#include <src/main/decaf/internal/util/concurrent/ThreadingTypes.h>`

Public Member Functions

- virtual ~**CompletionCondition** ()
- virtual bool **operator()** (bool timedOut DECAF_UNUSED)

  Called from timed wait condition methods to indicate if the timeout has occurred, allows this method to take other actions based on the timeout having occurred or not.

- virtual bool **operator()** ()

  Called from non-timed wait conditions to determine if the condition necessary to complete the wait has occurred or not.

6.150.1 Constructor & Destructor Documentation

6.150.1.1 virtual decaf::internal::util::concurrent::CompletionCondition::~CompletionCondition () [inline, virtual]

6.150.2 Member Function Documentation

6.150.2.1 virtual bool decaf::internal::util::concurrent::CompletionCondition::operator() () [inline, virtual]

Called from non-timed wait conditions to determine if the condition necessary to complete the wait has occurred or not.

Referenced by operator()().

6.150.2.2 virtual bool decaf::internal::util::concurrent::CompletionCondition::operator() (bool timedOut *DECAF_UNUSED*) [inline, virtual]

Called from timed wait condition methods to indicate if the timeout has occurred, allows this method to take other actions based on the timeout having occurred or not. By default this method just defers to the simple operator() method.

Parameters:

timedOut Indicates that the calling wait condition timed out or not.

References operator()().

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**ThreadingTypes.h**

6.151 activemq::util::CompositeData Class Reference

Represents a Composite URI.

`#include <src/main/activemq/util/CompositeData.h>`

Public Member Functions

- **CompositeData** ()
- virtual ~**CompositeData** ()
- **LinkedList**< **URI** > & **getComponents** ()
- const **LinkedList**< **URI** > & **getComponents** () const
- void **setComponents** (const **LinkedList**< **URI** > &components)
- std::string **getFragment** () const
- void **setFragment** (const std::string &fragment)
- const **Properties** & **getParameters** () const
- void **setParameters** (const **Properties** &parameters)
- std::string **getScheme** () const
- void **setScheme** (const std::string &scheme)
- std::string **getPath** () const
- void **setPath** (const std::string &path)
- std::string **getHost** () const
- void **setHost** (const std::string &host)
- **URI toURI** () const

6.151.1 Detailed Description

Represents a Composite URI.

Since:

3.0

6.151.2 Constructor & Destructor Documentation

6.151.2.1 activemq::util::CompositeData::CompositeData ()

6.151.2.2 virtual activemq::util::CompositeData::~CompositeData () [virtual]

6.151.3 Member Function Documentation

6.151.3.1 const LinkedList<URI>& activemq::util::CompositeData::getComponents () const [inline]

6.151.3.2 LinkedList<URI>& activemq::util::CompositeData::getComponents () [inline]

6.151.3.3 std::string activemq::util::CompositeData::getFragment () const [inline]

6.151.3.4 std::string activemq::util::CompositeData::getHost () const [inline]

6.151.3.5 const Properties& activemq::util::CompositeData::getParameters () const [inline]

6.151.3.6 std::string activemq::util::CompositeData::getPath () const [inline]

6.151.3.7 std::string activemq::util::CompositeData::getScheme () const [inline]

6.151.3.8 void activemq::util::CompositeData::setComponents (const LinkedList< URI > & *components*) [inline]

6.151.3.9 void activemq::util::CompositeData::setFragment (const std::string & *fragment*) [inline]

6.151.3.10 void activemq::util::CompositeData::setHost (const std::string & *host*) [inline]

6.151.3.11 void activemq::util::CompositeData::setParameters (const Properties & *parameters*) [inline]

6.151.3.12 void activemq::util::CompositeData::setPath (const std::string & *path*) [inline]

6.151.3.13 void activemq::util::CompositeData::setScheme (const std::string & *scheme*) [inline]

6.151.3.14 URI activemq::util::CompositeData::toURI () const

Exceptions:

decaf::net::URISyntaxException (p. *3182*)

The documentation for this class was generated from the following file:

- src/main/activemq/util/**CompositeData.h**

6.152 activemq::threads::CompositeTask Class Reference

Represents a single task that can be part of a set of Tasks that are contained in a `CompositeTaskRunner` (p. 1040).

`#include <src/main/activemq/threads/CompositeTask.h>`Inheritance diagram for activemq::threads::CompositeTask:

Public Member Functions

- virtual ~**CompositeTask** ()
- virtual bool **isPending** () const =0

  Indicates whether this task has any pending work that needs to be done, if not then it is skipped and the next ***Task*** *(p. 2973) in the CompositeTaskRunner's list of tasks is checked, if none of the tasks have any pending work to do, then the runner can go to sleep until it awakened by a call to* ***wakeup****.*

6.152.1 Detailed Description

Represents a single task that can be part of a set of Tasks that are contained in a `CompositeTaskRunner` (p. 1040).

Since:

3.0

6.152.2 Constructor & Destructor Documentation

6.152.2.1 virtual activemq::threads::CompositeTask::~CompositeTask () [virtual]

6.152.3 Member Function Documentation

6.152.3.1 virtual bool activemq::threads::CompositeTask::isPending () const [pure virtual]

Indicates whether this task has any pending work that needs to be done, if not then it is skipped and the next **Task** (p. 2973) in the CompositeTaskRunner's list of tasks is checked, if none of the tasks have any pending work to do, then the runner can go to sleep until it awakened by a call to `wakeup`.

Since:

3.0

Implemented in **activemq::transport::failover::BackupTransportPool** (p. 626), **activemq::transport::failover::CloseTransportsTask** (p. 963), and **activemq::transport::failover::FailoverTransport** (p. 1484).

The documentation for this class was generated from the following file:

- src/main/activemq/threads/**CompositeTask.h**

6.153 activemq::threads::CompositeTaskRunner Class Reference

A **Task** (p. 2973) Runner that can contain one or more CompositeTasks that are each checked for pending work and run if any is present in the order that the tasks were added.

`#include <src/main/activemq/threads/CompositeTaskRunner.h>`Inheritance diagram for activemq::threads::CompositeTaskRunner:

Public Member Functions

- **CompositeTaskRunner** ()
- virtual ~**CompositeTaskRunner** ()
- virtual void **start** ()

  Starts the task runner.

- virtual bool **isStarted** () const

  true if the start method has been called.

- void **addTask** (**CompositeTask** *task)

  *Adds a new **CompositeTask*** (p. *1039*) *to the Set of Tasks that this class manages.*

- void **removeTask** (**CompositeTask** *task)

  *Removes a **CompositeTask*** (p. *1039*) *that was added previously.*

- virtual void **shutdown** (long long timeout)

  Shutdown after a timeout, does not guarantee that the task's iterate method has completed and the thread halted.

- virtual void **shutdown** ()

  Shutdown once the task has finished and the TaskRunner's thread has exited.

- virtual void **wakeup** ()

  *Signal the **TaskRunner*** (p. *2974*) *to wakeup and execute another iteration cycle on the task, the **Task*** (p. *2973*) *instance will be run until its iterate method has returned false indicating it is done.*

Protected Member Functions

- virtual void **run** ()

  Run method - called by the Thread class in the context of the thread.

- virtual bool **iterate** ()

  Perform one iteration of work, returns true if the task needs to run again to complete or false to indicate that the task is now complete.

6.153.1 Detailed Description

A **Task** (p. 2973) Runner that can contain one or more CompositeTasks that are each checked for pending work and run if any is present in the order that the tasks were added.

Since:

3.0

6.153.2 Constructor & Destructor Documentation

6.153.2.1 activemq::threads::CompositeTaskRunner::CompositeTaskRunner ()

6.153.2.2 virtual activemq::threads::CompositeTaskRunner::~CompositeTaskRunner () [virtual]

6.153.3 Member Function Documentation

6.153.3.1 void activemq::threads::CompositeTaskRunner::addTask (CompositeTask * *task*)

Adds a new **CompositeTask** (p. 1039) to the Set of Tasks that this class manages.

Parameters:

task - Pointer to a **CompositeTask** (p. 1039) instance.

6.153.3.2 virtual bool activemq::threads::CompositeTaskRunner::isStarted () const [virtual]

true if the start method has been called.

Implements **activemq::threads::TaskRunner** (p. 2974).

6.153.3.3 virtual bool activemq::threads::CompositeTaskRunner::iterate () [protected, virtual]

Perform one iteration of work, returns true if the task needs to run again to complete or false to indicate that the task is now complete.

Returns:

true if the task should be run again or false if the task has completed and the runner should wait for a wakeup call.

Implements **activemq::threads::Task** (p. 2973).

6.153.3.4 void activemq::threads::CompositeTaskRunner::removeTask (CompositeTask * *task*)

Removes a **CompositeTask** (p. 1039) that was added previously.

Parameters:

task - Pointer to a **CompositeTask** (p. 1039) instance.

6.153.3.5 virtual void activemq::threads::CompositeTaskRunner::run () [protected, virtual]

Run method - called by the Thread class in the context of the thread.

Implements **decaf::lang::Runnable** (p. 2607).

6.153.3.6 virtual void activemq::threads::CompositeTaskRunner::shutdown () [virtual]

Shutdown once the task has finished and the TaskRunner's thread has exited.

Implements **activemq::threads::TaskRunner** (p. 2974).

6.153.3.7 virtual void activemq::threads::CompositeTaskRunner::shutdown (long long *timeout*) [virtual]

Shutdown after a timeout, does not guarantee that the task's iterate method has completed and the thread halted.

Parameters:

timeout - Time in Milliseconds to wait for the task to stop.

Implements **activemq::threads::TaskRunner** (p. 2975).

6.153.3.8 virtual void activemq::threads::CompositeTaskRunner::start () [virtual]

Starts the task runner. Prior to call this method tasks can be added to a Runner, but no executions will occur. The start method will create the background Thread(s) which do the work for this task runner.

Implements **activemq::threads::TaskRunner** (p. 2975).

6.153.3.9 virtual void activemq::threads::CompositeTaskRunner::wakeup () [virtual]

Signal the **TaskRunner** (p. 2974) to wakeup and execute another iteration cycle on the task, the **Task** (p. 2973) instance will be run until its iterate method has returned false indicating it is done.

Implements **activemq::threads::TaskRunner** (p. 2975).

The documentation for this class was generated from the following file:

- src/main/activemq/threads/**CompositeTaskRunner.h**

6.154 activemq::transport::CompositeTransport Class Reference

A Composite **Transport** (p. 3109) is a **Transport** (p. 3109) implementation that is composed of several Transports.

`#include <src/main/activemq/transport/CompositeTransport.h>`Inheritance diagram for activemq::transport::CompositeTransport:

Public Member Functions

- virtual ~**CompositeTransport** ()
- virtual void **addURI** (bool rebalance, const **List**< **URI** > &uris)=0

  *Add a URI to the list of URI's that will represent the set of Transports that this **Transport** (p. 3109) is a composite of.*

- virtual void **removeURI** (bool rebalance, const **List**< **URI** > &uris)=0

  *Remove a URI from the set of URI's that represents the set of Transports that this **Transport** (p. 3109) is composed of, removing a URI for which the composite has created a connected **Transport** (p. 3109) should result in that **Transport** (p. 3109) being disposed of.*

6.154.1 Detailed Description

A Composite **Transport** (p. 3109) is a **Transport** (p. 3109) implementation that is composed of several Transports. The composition could be such that only one **Transport** (p. 3109) exists for each URI that is composed or there could be many active Transports working at once.

Since:

3.0

6.154.2 Constructor & Destructor Documentation

6.154.2.1 virtual activemq::transport::CompositeTransport::~CompositeTransport () [virtual]

6.154.3 Member Function Documentation

6.154.3.1 virtual void activemq::transport::CompositeTransport::addURI (bool *rebalance*, const List< URI > & *uris*) [pure virtual]

Add a URI to the list of URI's that will represent the set of Transports that this **Transport** (p. 3109) is a composite of.

Parameters:

rebalance Indicates if the addition should cause a forced reconnect or not.

uris The new URI set to add to the set this composite maintains.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1480).

6.154.3.2 virtual void activemq::transport::CompositeTransport::removeURI (bool *rebalance*, const List< URI > & *uris*) [pure virtual]

Remove a URI from the set of URI's that represents the set of Transports that this **Transport** (p. 3109) is composed of, removing a URI for which the composite has created a connected **Transport** (p. 3109) should result in that **Transport** (p. 3109) being disposed of.

Parameters:

rebalance Indicates if the removal should cause a forced reconnect or not.

uris The new URI set to remove to the set this composite maintains.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1487).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**CompositeTransport.h**

6.155 decaf::util::concurrent::ConcurrentHashMap Class Reference

`#include <src/main/decaf/util/concurrent/ConcurrentHashMap.h>`

Public Member Functions

- **ConcurrentHashMap** ()
- virtual ~**ConcurrentHashMap** ()

6.155.1 Constructor & Destructor Documentation

6.155.1.1 decaf::util::concurrent::ConcurrentHashMap::ConcurrentHashMap () [inline]

6.155.1.2 virtual decaf::util::concurrent::ConcurrentHashMap::~ConcurrentHashMap () [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ConcurrentHashMap.h**

6.156 decaf::util::concurrent::ConcurrentMap< K, V > Class Template Reference

Interface for a **Map** (p. 1995) type that provides additional **atomic** (p. 132) putIfAbsent, remove, and replace methods alongside the already available **Map** (p. 1995) interface.

`#include <src/main/decaf/util/concurrent/ConcurrentMap.h>`Inheritance diagram for decaf::util::concurrent::ConcurrentMap< K, V >:

Public Member Functions

- virtual ~**ConcurrentMap** ()
- virtual bool **putIfAbsent** (const K &key, const V &value)=0

  If the specified key is not already associated with a value, associate it with the given value.

- virtual bool **remove** (const K &key, const V &value)=0

  Remove entry for key only if currently mapped to given value.

- virtual bool **replace** (const K &key, const V &oldValue, const V &newValue)=0

  Replace entry for key only if currently mapped to given value.

- virtual V **replace** (const K &key, const V &value)=0

  Replace entry for key only if currently mapped to some value.

6.156.1 Detailed Description

template<typename K, typename V> class decaf::util::concurrent::ConcurrentMap< K, V >

Interface for a **Map** (p. 1995) type that provides additional **atomic** (p. 132) putIfAbsent, remove, and replace methods alongside the already available **Map** (p. 1995) interface.

Since:

1.0

6.156.2 Constructor & Destructor Documentation

6.156.2.1 template<typename K, typename V> virtual decaf::util::concurrent::ConcurrentMap< K, V >::~ConcurrentMap () [inline, virtual]

6.156.3 Member Function Documentation

6.156.3.1 template<typename K, typename V> virtual bool decaf::util::concurrent::ConcurrentMap< K, V >::putIfAbsent (const K & *key*, const V & *value*) [pure virtual]

If the specified key is not already associated with a value, associate it with the given value. This is equivalent to

```
if( !map.containsKey( key ) ) {
    map.put( key, value );
    return true;
} else {
    return false;
}
```

except that the action is performed atomically.

Parameters:

key The key to map the value to.

value The value to map to the given key.

Returns:

true if the put operation was performed otherwise return false which indicates there was a value previously mapped to the key.

Exceptions:

UnsupportedOperationException if the put operation is not supported by this map

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1065), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1065), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1065), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1065), and **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1065).

6.156.3.2 template<typename K, typename V> virtual bool decaf::util::concurrent::ConcurrentMap< K, V >::remove (const K & *key*, const V & *value*) [pure virtual]

Remove entry for key only if currently mapped to given value. Acts as

```
if( ( map.containsKey( key ) && ( map.get( key ) == value ) ) ) {
    map.remove( key );
    return true;
} else {
    return false;
}
```

except that the action is performed atomically.

Parameters:

key key with which the specified value is associated.

value value associated with the specified key.

Returns:

true if the value was removed, false otherwise

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1066), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1066), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1066), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1066), and **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1066).

6.156.3.3 template<typename K, typename V> virtual V decaf::util::concurrent::ConcurrentMap< K, V >::replace (const K & *key*, const V & *value*) [pure virtual]

Replace entry for key only if currently mapped to some value. Acts as

```
if( ( map.containsKey( key ) ) {
    return map.put( key, value );
} else {
    throw NoSuchElementException (p. 2247)(...);
};
```

except that the action is performed atomically.

Parameters:

key key with which the specified value is associated.

value value to be associated with the specified key.

Returns:

copy of the previous value associated with specified key, or throws an **NoSuchElementException** (p. 2247) if there was no mapping for key.

Exceptions:

NoSuchElementException *(p. 2247)* if there was no previous mapping.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1067), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1067), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1067), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1067), and **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1067).

6.156.3.4 template<typename K, typename V> virtual bool decaf::util::concurrent::ConcurrentMap< K, V >::replace (const K & *key*, const V & *oldValue*, const V & *newValue*) [pure virtual]

Replace entry for key only if currently mapped to given value. Acts as

```
if( ( map.containsKey( key ) && ( map.get( key ) == oldValue  ) ) {
    map.put( key, newValue );
    return true;
} else {
    return false;
}
```

except that the action is performed atomically.

Parameters:

key key with which the specified value is associated.

oldValue value expected to be associated with the specified key.

newValue value to be associated with the specified key.

Returns:

true if the value was replaced

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1067), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1067), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1067), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1067), and **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1067).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ConcurrentMap.h**

6.157 decaf::util::ConcurrentModificationException Class Reference

`#include <src/main/decaf/util/ConcurrentModificationException.h>`Inheritance diagram for decaf::util::ConcurrentModificationException:

Public Member Functions

- **ConcurrentModificationException** ()
  Default Constructor.
- **ConcurrentModificationException** (const **lang::Exception** &ex)
  Copy Constructor.
- **ConcurrentModificationException** (const **ConcurrentModificationException** &ex)
  Copy Constructor.
- **ConcurrentModificationException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **ConcurrentModificationException** (const std::exception *cause)
  Constructor.
- **ConcurrentModificationException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor.
- virtual **ConcurrentModificationException** * **clone** () const
  Clones this exception.
- virtual ~**ConcurrentModificationException** () throw ()

6.157.1 Constructor & Destructor Documentation

6.157.1.1 decaf::util::ConcurrentModificationException::ConcurrentModificationException ()

Default Constructor.

6.157.1.2 decaf::util::ConcurrentModificationException::ConcurrentModificationException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.157.1.3 decaf::util::ConcurrentModificationException::ConcurrentModificationException (const ConcurrentModificationException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.157.1.4 decaf::util::ConcurrentModificationException::ConcurrentModificationException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.157.1.5 decaf::util::ConcurrentModificationException::ConcurrentModificationException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.157.1.6 decaf::util::ConcurrentModificationException::ConcurrentModificationException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.157.1.7 virtual decaf::util::ConcurrentModificationException::~ConcurrentModificationException () throw () [virtual]

6.157.2 Member Function Documentation

6.157.2.1 virtual ConcurrentModificationException* decaf::util::ConcurrentModificationException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Reimplemented from **decaf::lang::exceptions::RuntimeException** (p. 2613).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**ConcurrentModificationException.h**

6.158 decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR > Class Template Reference

Map (p. 1995) template that wraps around a std::map to provide a more user-friendly interface and to provide common functions that do not exist in std::map.

`#include <src/main/decaf/util/concurrent/ConcurrentStlMap.h>`Inheritance diagram for decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >:

Data Structures

- class **AbstractMapIterator**
- class **ConstAbstractMapIterator**
- class **ConstEntryIterator**
- class **ConstKeyIterator**
- class **ConstStlMapEntrySet**
- class **ConstStlMapKeySet**
- class **ConstStlMapValueCollection**
- class **ConstValueIterator**
- class **EntryIterator**
- class **KeyIterator**
- class **StlMapEntrySet**
- class **StlMapKeySet**
- class **StlMapValueCollection**
- class **ValueIterator**

Public Member Functions

- **ConcurrentStlMap** ()

  Default constructor - does nothing.

- **ConcurrentStlMap** (const **ConcurrentStlMap** &source)

  Copy constructor - copies the content of the given map into this one.

- **ConcurrentStlMap** (const **Map**< K, V > &source)

  Copy constructor - copies the content of the given map into this one.

- virtual ~**ConcurrentStlMap** ()
- virtual bool **equals** (const **ConcurrentStlMap** &source) const

  Compares the specified object with this map for equality.
  *Returns true if the two maps represent the same mappings. More formally, two maps m1 and m2 represent the same mappings if m1.entrySet().equals(m2.entrySet()). This ensures that the equals method works properly across different implementations of the **Map** (p. 1995) interface.*

  Parameters:

  ***source** **Map** (p. 1995) to compare to this one.*

  Returns:

  *true if the **Map** (p. 1995) passed is equal in value to this one.*

- virtual bool **equals** (const **Map**< K, V > &source) const
- virtual void **copy** (const **ConcurrentStlMap** &source)

  Copies the content of the source map into this map.
  *Erases all existing mappings in this map. The copy is performed by using the entrySet of the source **Map** (p. 1995) and iterating over those entries, inserting each into the target.*
  Parameters:

  source *The source object to copy from.*

- virtual void **copy** (const **Map**< K, V > &source)
- virtual void **clear** ()

  Removes all of the mappings from this map (optional operation).
  The map will be empty after this call returns.
  Exceptions:

  UnsupportedOperationException *if the clear operation is not supported by this map.*

- virtual bool **containsKey** (const K &key) const

  Returns true if this map contains a mapping for the specified key.
  More formally, returns true if and only if this map contains a mapping for a key k such that (key == k). (There can be at most one such mapping.)
  Parameters:

  key *The key to look up.*
  Returns:

  true if this map contains the key mapping, otherwise false.

- virtual bool **containsValue** (const V &value) const

  Returns true if this map maps one or more keys to the specified value.
  *More formally, returns true if and only if this map contains at least one mapping to a value v such that (value==v). This operation will probably require time linear in the map size for most implementations of the **Map** (p. 1995) interface.*
  Parameters:

  value *The Value to look up in this **Map** (p. 1995).*
  Returns:

  true if this map contains at least one mapping for the value, otherwise false.

- virtual bool **isEmpty** () const

  Returns:

  *if the **Map** (p. 1995) contains any element or not, TRUE or FALSE*

- virtual int **size** () const

  Returns:

  The number of elements (key/value pairs) in this map.

- virtual V & **get** (const K &key)

  *Gets the value mapped to the specified key in the **Map** (p. 1995).*
  *If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.*
  Parameters:

  key *The search key whose value should be returned if present.*

Returns:

A reference to the value for the given key if present in the ***Map*** *(p. 1995).*

Exceptions:

NoSuchElementException *(p. 2247) if the key requests doesn't exist in the* ***Map*** *(p. 1995).*

- virtual const V & **get** (const K &key) const

Gets the value mapped to the specified key in the ***Map*** *(p. 1995).*
If there is no element in the map whose key is equivalent to the key provided then a ***NoSuchElementException*** *(p. 2247) is thrown.*

Parameters:

key *The search key whose value should be returned if present.*

Returns:

A const reference to the value for the given key if present in the ***Map*** *(p. 1995).*

Exceptions:

NoSuchElementException *(p. 2247) if the key requests doesn't exist in the* ***Map*** *(p. 1995).*

- virtual bool **put** (const K &key, const V &value)

Associates the specified value with the specified key in this map (optional operation).
If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

Parameters:

key *The target key.*
value *The value to be set.*

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException *if this map is unmodifiable.*
IllegalArgumentException *if some property of the specified key or value prevents it from being stored in this map*

- virtual bool **put** (const K &key, const V &value, V &oldValue)

Associates the specified value with the specified key in this map (optional operation).
If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)
This method accepts a reference to a value which will be assigned the previous value for the given key (if any). If there was no previous mapping for the given key the out value is not written to. A return of true indicates that a value was replaced by this put operation.

Parameters:

key *The target key.*
value *The value to be set.*
oldValue *(out) The value previously held in the mapping for this key. .*

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException *if this map is unmodifiable.*

IllegalArgumentException *if some property of the specified key or value prevents it from being stored in this map*

- virtual void **putAll** (const **ConcurrentStlMap**< K, V, COMPARATOR > &other)

  Copies all of the mappings from the specified map to this map (optional operation).
  The effect of this call is equivalent to that of calling put(k, v) on this map once for each mapping from key k to value v in the specified map. The behavior of this operation is undefined if the specified map is modified while the operation is in progress.

  Parameters:

  other *A* ***Map*** (p. *1995*) *instance whose elements are to all be inserted in this* ***Map*** (p. *1995*).

  Exceptions:

  UnsupportedOperationException *If the implementing class does not support the putAll operation.*

- virtual void **putAll** (const **Map**< K, V > &other)

- virtual V **remove** (const K &key)

  Removes the value (key/value pair) for the specified key from the map, returns a copy of the value that was mapped to the key.
  Care must be taken when using this operation as it will throw an exception if there is no mapping for the given key.

  Parameters:

  key *The search key whose mapping is to be removed.*

  Returns:

  a copy of the element that was previously mapped to the given key.

  Exceptions:

  NoSuchElementException (p. *2247*) *if this key is not in the* ***Map*** (p. *1995*).
  UnsupportedOperationException *if this map is unmodifiable.*

- bool **putIfAbsent** (const K &key, const V &value)

  If the specified key is not already associated with a value, associate it with the given value.

- bool **remove** (const K &key, const V &value)

  Remove entry for key only if currently mapped to given value.

- bool **replace** (const K &key, const V &oldValue, const V &newValue)

  Replace entry for key only if currently mapped to given value.

- V **replace** (const K &key, const V &value)

  Replace entry for key only if currently mapped to some value.

- virtual **Set**< **MapEntry**< K, V > > & **entrySet** ()

  Returns a ***Set*** (p. *2700*) *view of the mappings contained in this map.*

- virtual const **Set**< **MapEntry**< K, V > > & **entrySet** () const
- virtual **Set**< K > & **keySet** ()

  Returns a ***Set*** (p. *2700*) *view of the keys contained in this map.*

- virtual const **Set**< K > & **keySet** () const
- virtual **Collection**< V > & **values** ()

  *Returns a **Collection** (p. 1000) view of the values contained in this map.*

- virtual const **Collection**< V > & **values** () const
- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

  *Attempts to **Lock** (p. 1911) the object, if the lock is already held by another thread than this method returns false.*

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

6.158.1 Detailed Description

template<typename K, typename V, typename COMPARATOR = std::less<K>> class decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >

Map (p. 1995) template that wraps around a std::map to provide a more user-friendly interface and to provide common functions that do not exist in std::map. This version of **Map** (p. 1995) extends the **ConcurrentMap** (p. 1046) inteface and implements all the methods defined in that interface. Unlike a Java **ConcurrentHashMap** (p. 1045) this implementations synchronizes all methods such that any call to this class will block if another thread is already holding a lock, much like the Java HashTable.

Since:

1.0

6.158.2 Constructor & Destructor Documentation

6.158.2.1 template<typename K, typename V, typename COMPARATOR = std::less<K>> decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConcurrentStlMap () [inline]

Default constructor - does nothing.

6.158.2.2 template<typename K, typename V, typename COMPARATOR = std::less<K>> decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConcurrentStlMap (const ConcurrentStlMap< K, V, COMPARATOR > & *source*) [inline]

Copy constructor - copies the content of the given map into this one.

Parameters:

source The source map.

6.158.2.3 template<typename K, typename V, typename COMPARATOR = std::less<K>> decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConcurrentStlMap (const Map< K, V > & *source*) [inline]

Copy constructor - copies the content of the given map into this one.

Parameters:

source The source map.

6.158.2.4 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::~ConcurrentStlMap () [inline, virtual]

6.158.3 Member Function Documentation

6.158.3.1 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::clear () [inline, virtual]

Removes all of the mappings from this map (optional operation).

The map will be empty after this call returns.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this map.

Implements **decaf::util::Map< K, V >** (p. 1997).

Referenced by decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::copy().

6.158.3.2 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::containsKey (const K & *key*) const [inline, virtual]

Returns true if this map contains a mapping for the specified key.

More formally, returns true if and only if this map contains a mapping for a key k such that (key == k). (There can be at most one such mapping.)

Parameters:

key The key to look up.

Returns:

true if this map contains the key mapping, otherwise false.

Implements **decaf::util::Map< K, V >** (p. 1998).

Referenced by decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::equals(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::put(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::putIfAbsent(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::remove(), and decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::replace().

6.158.3.3 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::containsValue (const V & *value*) const [inline, virtual]

Returns true if this map maps one or more keys to the specified value.

More formally, returns true if and only if this map contains at least one mapping to a value v such that (value==v). This operation will probably require time linear in the map size for most implementations of the **Map** (p. 1995) interface.

Parameters:

value The Value to look up in this **Map** (p. 1995).

Returns:

true if this map contains at least one mapping for the value, otherwise false.

Implements **decaf::util::Map< K, V >** (p. 1998).

6.158.3.4 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::copy (const Map< K, V > & *source*) [inline, virtual]

6.158.3.5 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::copy (const ConcurrentStlMap< K, V, COMPARATOR > & *source*) [inline, virtual]

Copies the content of the source map into this map.

Erases all existing mappings in this map. The copy is performed by using the entrySet of the source **Map** (p. 1995) and iterating over those entries, inserting each into the target.

Parameters:

source The source object to copy from.

Implements **decaf::util::Map< K, V >** (p. 1999).

Referenced by decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::ConcurrentStlMap().

6.158.3.6 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual const Set< MapEntry<K, V> >& decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::entrySet () const [inline, virtual]

Implements **decaf::util::Map< K, V >** (p. 1999).

6.158.3.7 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual Set< MapEntry<K, V> >& decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::entrySet () [inline, virtual]

Returns a **Set** (p. 2700) view of the mappings contained in this map. The set is backed by the map, so changes to the map are reflected in the set, and vice-versa. If the map is modified while an iteration over the set is in progress (except through the iterator's own remove operation, or through the setValue operation on a map entry returned by the iterator) the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Set.remove** (p. 1007), removeAll, retainAll and clear operations. It does not support the add or addAll operations.

Returns:

a reference to a **Set** (p. 2700)<MapEntry<K,V>> that is backed by this **Map** (p. 1995).

Implements **decaf::util::Map< K, V >** (p. 1999).

6.158.3.8 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::equals (const Map< K, V > & *source*) const [inline, virtual]

6.158.3.9 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::equals (const ConcurrentStlMap< K, V, COMPARATOR > & *source*) const [inline, virtual]

Compares the specified object with this map for equality.

Returns true if the two maps represent the same mappings. More formally, two maps m1 and m2 represent the same mappings if m1.entrySet().equals(m2.entrySet()). This ensures that the equals method works properly across different implementations of the **Map** (p. 1995) interface.

Parameters:

source **Map** (p. 1995) to compare to this one.

Returns:

true if the **Map** (p. 1995) passed is equal in value to this one.

Implements **decaf::util::Map< K, V >** (p. 2000).

6.158.3.10 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual const V& decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::get (const K & *key*) const [inline, virtual]

Gets the value mapped to the specified key in the **Map** (p. 1995).

If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.

Parameters:

key The search key whose value should be returned if present.

Returns:

A const reference to the value for the given key if present in the **Map** (p. 1995).

Exceptions:

NoSuchElementException *(p. 2247)* if the key requests doesn't exist in the **Map** (p. 1995).

Implements **decaf::util::Map< K, V >** (p. 2001).

6.158.3.11 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual V& decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::get (const K & *key*) [inline, virtual]

Gets the value mapped to the specified key in the **Map** (p. 1995).

If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.

Parameters:

key The search key whose value should be returned if present.

Returns:

A reference to the value for the given key if present in the **Map** (p. 1995).

Exceptions:

NoSuchElementException *(p. 2247)* if the key requests doesn't exist in the **Map** (p. 1995).

Implements **decaf::util::Map< K, V >** (p. 2001).

6.158.3.12 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::isEmpty () const [inline, virtual]

Returns:

if the **Map** (p. 1995) contains any element or not, TRUE or FALSE

Implements **decaf::util::Map< K, V >** (p. 2002).

6.158.3.13 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual const Set<K>& decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::keySet () const [inline, virtual]

Implements **decaf::util::Map< K, V >** (p. 2002).

6.158.3.14 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual Set<K>& decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::keySet () [inline, virtual]

Returns a **Set** (p. 2700) view of the keys contained in this map. The set is backed by the map, so changes to the map are reflected in the set, and vice-versa. If the map is modified while an iteration over the set is in progress (except through the iterator's own remove operation), the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Set.remove** (p. 1007), removeAll, retainAll, and clear operations. It does not support the add or addAll operations.

Returns:

a set view of the keys contained in this map,

Implements **decaf::util::Map< K, V >** (p. 2003).

Referenced by decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::equals().

6.158.3.15 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

6.158.3.16 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.158.3.17 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.158.3.18 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::put (const K & *key*, const V & *value*, V & *oldValue*) [inline, virtual]

Associates the specified value with the specified key in this map (optional operation).

If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

This method accepts a reference to a value which will be assigned the previous value for the given key (if any). If there was no previous mapping for the given key the out value is not written to. A return of true indicates that a value was replaced by this put operation.

Parameters:

key The target key.

value The value to be set.

oldValue (out) The value previously held in the mapping for this key. .

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException if this map is unmodifiable.

IllegalArgumentException if some property of the specified key or value prevents it from being stored in this map

Implements **decaf::util::Map< K, V >** (p. 2004).

6.158.3.19 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::put (const K & *key*, const V & *value*) [inline, virtual]

Associates the specified value with the specified key in this map (optional operation).

If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

Parameters:

key The target key.

value The value to be set.

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException if this map is unmodifiable.

IllegalArgumentException if some property of the specified key or value prevents it from being stored in this map

Implements **decaf::util::Map< K, V >** (p. 2004).

Referenced by decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::putAll(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::putIfAbsent(), and decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::replace().

6.158.3.20 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::putAll (const Map< K, V > & *other*) [inline, virtual]

6.158.3.21 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::putAll (const ConcurrentStlMap< K, V, COMPARATOR > & *other*) [inline, virtual]

Copies all of the mappings from the specified map to this map (optional operation).

The effect of this call is equivalent to that of calling put(k, v) on this map once for each mapping from key k to value v in the specified map. The behavior of this operation is undefined if the specified map is modified while the operation is in progress.

Parameters:

other A **Map** (p. 1995) instance whose elements are to all be inserted in this **Map** (p. 1995).

Exceptions:

UnsupportedOperationException If the implementing class does not support the putAll operation.

Implements **decaf::util::Map< K, V >** (p. 2005).

Referenced by decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::copy().

6.158.3.22 template<typename K, typename V, typename COMPARATOR = std::less<K>> bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::putIfAbsent (const K & *key*, const V & *value*) [inline, virtual]

If the specified key is not already associated with a value, associate it with the given value. This is equivalent to

```
if( !map.containsKey( key ) ) {
    map.put( key, value );
    return true;
} else {
    return false;
}
```

except that the action is performed atomically.

Parameters:

key The key to map the value to.

value The value to map to the given key.

Returns:

true if the put operation was performed otherwise return false which indicates there was a value previously mapped to the key.

Exceptions:

UnsupportedOperationException if the put operation is not supported by this map

Implements **decaf::util::concurrent::ConcurrentMap< K, V >** (p. 1047).

6.158.3.23 template<typename K, typename V, typename COMPARATOR = std::less<K>> bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::remove (const K & *key*, const V & *value*) [inline, virtual]

Remove entry for key only if currently mapped to given value. Acts as

```
if( map.containsKey( key ) && ( map.get( key ) == value ) ) {
    map.remove( key );
    return true;
} else {
    return false;
}
```

except that the action is performed atomically.

Parameters:

key key with which the specified value is associated.

value value associated with the specified key.

Returns:

true if the value was removed, false otherwise

Implements **decaf::util::concurrent::ConcurrentMap< K, V >** (p. 1047).

6.158.3.24 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual V decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::remove (const K & *key*) [inline, virtual]

Removes the value (key/value pair) for the specified key from the map, returns a copy of the value that was mapped to the key.

Care must be taken when using this operation as it will throw an exception if there is no mapping for the given key.

Parameters:

key The search key whose mapping is to be removed.

Returns:

a copy of the element that was previously mapped to the given key.

Exceptions:

NoSuchElementException *(p. 2247)* if this key is not in the **Map** (p. 1995).

UnsupportedOperationException if this map is unmodifiable.

Implements **decaf::util::Map< K, V >** (p. 2005).

6.158.3.25 template<typename K, typename V, typename COMPARATOR = std::less<K>> V decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::replace (const K & *key*, const V & *value*) [inline, virtual]

Replace entry for key only if currently mapped to some value. Acts as

```
if( map.containsKey( key ) ) {
    return map.put( key, value );
} else {
    throw NoSuchElementException (p. 2247)(...);
};
```

except that the action is performed atomically.

Parameters:

key key with which the specified value is associated.

value value to be associated with the specified key.

Returns:

copy of the previous value associated with specified key, or throws an **NoSuchElementException** (p. 2247) if there was no mapping for key.

Exceptions:

NoSuchElementException *(p. 2247)* if there was no previous mapping.

Implements **decaf::util::concurrent::ConcurrentMap< K, V >** (p. 1048).

6.158.3.26 template<typename K, typename V, typename COMPARATOR = std::less<K>> bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::replace (const K & *key*, const V & *oldValue*, const V & *newValue*) [inline, virtual]

Replace entry for key only if currently mapped to given value. Acts as

```
if( map.containsKey( key ) && ( map.get( key ) == oldValue ) ) {
    map.put( key, newValue );
    return true;
} else {
    return false;
}
```

except that the action is performed atomically.

Parameters:

key key with which the specified value is associated.

oldValue value expected to be associated with the specified key.

newValue value to be associated with the specified key.

Returns:

true if the value was replaced

Implements **decaf::util::concurrent::ConcurrentMap< K, V >** (p. 1049).

6.158.3.27 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual int decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::size () const [inline, virtual]

Returns:

The number of elements (key/value pairs) in this map.

Implements **decaf::util::Map< K, V >** (p. 2006).

6.158.3.28 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::tryLock () [inline, virtual]

Attempts to **Lock** (p. 1911) the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

6.158.3.29 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

6.158.3.30 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual const Collection<V>& decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::values () const [inline, virtual]

Implements **decaf::util::Map< K, V >** (p. 2007).

6.158.3.31 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual Collection<V>& decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::values () [inline, virtual]

Returns a **Collection** (p. 1000) view of the values contained in this map. The collection is backed by the map, so changes to the map are reflected in the collection, and vice-versa. If the map is modified while an iteration over the collection is in progress (except through the iterator's own remove operation), the results of the iteration are undefined. The collection supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Collection.remove** (p. 1007), removeAll, retainAll and clear operations. It does not support the add or addAll operations. For the const version of this method the **Collection** (p. 1000) can only be used as a view into the **Map** (p. 1995).

Returns:

a collection view of the values contained in this map.

Implements **decaf::util::Map< K, V >** (p. 2007).

6.158.3.32 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.158.3.33 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.158.3.34 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ConcurrentStlMap.h**

6.159 decaf::util::concurrent::locks::Condition Class Reference

Condition (p. 1071) factors out the **Mutex** (p. 2223) monitor methods (wait, notify and notifyAll) into distinct objects to give the effect of having multiple wait-sets per object, by combining them with the use of arbitrary **Lock** (p. 1913) implementations.

`#include <src/main/decaf/util/concurrent/locks/Condition.h>`Inheritance diagram for decaf::util::concurrent::locks::Condition:

Public Member Functions

- virtual ~**Condition** ()
- virtual void **await** ()=0

  Causes the current thread to wait until it is signaled or interrupted.

- virtual void **awaitUninterruptibly** ()=0

  Causes the current thread to wait until it is signalled.

- virtual long long **awaitNanos** (long long nanosTimeout)=0

  Causes the current thread to wait until it is signaled or interrupted, or the specified waiting time elapses.

- virtual bool **await** (long long time, const **TimeUnit** &unit)=0

  Causes the current thread to wait until it is signaled or interrupted, or the specified waiting time elapses.

- virtual bool **awaitUntil** (const **Date** &deadline)=0
- virtual void **signal** ()=0

  Wakes up one waiting thread.

- virtual void **signalAll** ()=0

  Wakes up all waiting threads.

6.159.1 Detailed Description

Condition (p. 1071) factors out the **Mutex** (p. 2223) monitor methods (wait, notify and notifyAll) into distinct objects to give the effect of having multiple wait-sets per object, by combining them with the use of arbitrary **Lock** (p. 1913) implementations. Where a **Lock** (p. 1913) replaces the use of synchronized statements, a **Condition** (p. 1071) replaces the use of the Object monitor methods.

Conditions (also known as condition queues or condition variables) provide a means for one thread to suspend execution (to "wait") until notified by another thread that some state condition may now be true. Because access to this shared state information occurs in different threads, it must be protected, so a lock of some form is associated with the condition. The key property that waiting for a condition provides is that it atomically releases the associated lock and suspends the current thread.

A **Condition** (p. 1071) instance is intrinsically bound to a lock. To obtain a **Condition** (p. 1071) instance for a particular **Lock** (p. 1913) instance use its newCondition() method.

As an example, suppose we have a bounded buffer which supports put and take methods. If a take is attempted on an empty buffer, then the thread will block until an item becomes available; if a put is attempted on a full buffer, then the thread will block until a space becomes available. We would like to keep waiting put threads and take threads in separate wait-sets so that we can use the optimization of only notifying a single thread at a time when items or spaces become available in the buffer. This can be achieved using two **Condition** (p. 1071) instances.

class BoundedBuffer { Lock* lock = new ReentrantLock(); Condition* notFull = lock->newCondition(); Condition* notEmpty = lock->newCondition();

Object* items = new Object[100]; int putptr, takeptr, count;

public void put(Object* x) { lock->lock(); try { while(count == 100) notFull->**await()** (p. 1073); items[putptr] = x; if (++putptr == 100) putptr = 0; ++count; notEmpty->**signal()** (p. 1076); } catch(...) { lock->unlock(); } }

public Object take() { lock->lock(); try { while(count == 0) notEmpty->**await()** (p. 1073); Object x = items[takeptr]; if (++takeptr == 100) takeptr = 0; --count; notFull->**signal()** (p. 1076); return x; } catch(...) { lock->unlock(); } } }

(The ArrayBlockingQueue class provides this functionality, so there is no reason to implement this sample usage class.)

Implementation Considerations

When waiting upon a **Condition** (p. 1071), a "spurious wakeup" is permitted to occur, in general, as a concession to the underlying platform semantics. This has little practical impact on most application programs as a **Condition** (p. 1071) should always be waited upon in a loop, testing the state predicate that is being waited for. An implementation is free to remove the possibility of spurious wakeups but it is recommended that applications programmers always assume that they can occur and so always wait in a loop.

The three forms of condition waiting (interruptible, non-interruptible, and timed) may differ in their ease of implementation on some platforms and in their performance characteristics. In particular, it may be difficult to provide these features and maintain specific semantics such as ordering guarantees. Further, the ability to interrupt the actual suspension of the thread may not always be feasible to implement on all platforms.

Consequently, an implementation is not required to define exactly the same guarantees or semantics for all three forms of waiting, nor is it required to support interruption of the actual suspension of the thread.

An implementation is required to clearly document the semantics and guarantees provided by each of the waiting methods, and when an implementation does support interruption of thread suspension then it must obey the interruption semantics as defined in this interface.

As interruption generally implies cancellation, and checks for interruption are often infrequent, an implementation can favor responding to an interrupt over normal method return. This is true even if it can be shown that the interrupt occurred after another action may have unblocked the thread. An implementation should document this behavior.

Since:

1.0

6.159.2 Constructor & Destructor Documentation

6.159.2.1 virtual decaf::util::concurrent::locks::Condition::~Condition () [virtual]

6.159.3 Member Function Documentation

6.159.3.1 virtual bool decaf::util::concurrent::locks::Condition::await (long long *time*, const TimeUnit & *unit*) [pure virtual]

Causes the current thread to wait until it is signaled or interrupted, or the specified waiting time elapses. This method is behaviorally equivalent to:

awaitNanos(unit.toNanos(time)) > 0

Parameters:

time - the maximum time to wait

unit - the time unit of the time argument

Returns:

false if the waiting time detectably elapsed before return from the method, else true

Exceptions:

RuntimeException if an unexpected error occurs while trying to wait on the **Condition** (p. 1071).

InterruptedException if the current thread is interrupted (and interruption of thread suspension is supported)

IllegalMonitorStateException if the caller is not the lock owner.

6.159.3.2 virtual void decaf::util::concurrent::locks::Condition::await () [pure virtual]

Causes the current thread to wait until it is signaled or interrupted. The lock associated with this **Condition** (p. 1071) is atomically released and the current thread becomes disabled for thread scheduling purposes and lies dormant until one of four things happens:

∗ Some other thread invokes the **signal()** (p. 1076) method for this **Condition** (p. 1071) and the current thread happens to be chosen as the thread to be awakened; or ∗ Some other thread invokes the **signalAll()** (p. 1076) method for this **Condition** (p. 1071); or ∗ Some other thread interrupts the current thread, and interruption of thread suspension is supported; or ∗ A "spurious wakeup" occurs.

In all cases, before this method can return the current thread must re-acquire the lock associated with this condition. When the thread returns it is guaranteed to hold this lock.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while waiting and interruption of thread suspension is supported,

then InterruptedException is thrown and the current thread's interrupted status is cleared. It is not specified, in the first case, whether or not the test for interruption occurs before the lock is released.

Implementation Considerations

The current thread is assumed to hold the lock associated with this **Condition** (p. 1071) when this method is called. It is up to the implementation to determine if this is the case and if not, how to respond. Typically, an exception will be thrown (such as IllegalMonitorStateException) and the implementation must document that fact.

An implementation can favor responding to an interrupt over normal method return in response to a signal. In that case the implementation must ensure that the signal is redirected to another waiting thread, if there is one.

Exceptions:

RuntimeException if an unexpected error occurs while trying to wait on the **Condition** (p. 1071).

InterruptedException if the current thread is interrupted (and interruption of thread suspension is supported)

IllegalMonitorStateException if the caller is not the lock owner.

6.159.3.3 virtual long long decaf::util::concurrent::locks::Condition::awaitNanos (long long *nanosTimeout*) [pure virtual]

Causes the current thread to wait until it is signaled or interrupted, or the specified waiting time elapses. The lock associated with this condition is atomically released and the current thread becomes disabled for thread scheduling purposes and lies dormant until one of five things happens:

∗ Some other thread invokes the **signal()** (p. 1076) method for this **Condition** (p. 1071) and the current thread happens to be chosen as the thread to be awakened; or ∗ Some other thread invokes the **signalAll()** (p. 1076) method for this **Condition** (p. 1071); or ∗ Some other thread interrupts the current thread, and interruption of thread suspension is supported; or ∗ The specified waiting time elapses; or ∗ A "spurious wakeup" occurs.

In all cases, before this method can return the current thread must re-acquire the lock associated with this condition. When the thread returns it is guaranteed to hold this lock.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while waiting and interruption of thread suspension is supported,

then InterruptedException is thrown and the current thread's interrupted status is cleared. It is not specified, in the first case, whether or not the test for interruption occurs before the lock is released.

The method returns an estimate of the number of nanoseconds remaining to wait given the supplied nanosTimeout value upon return, or a value less than or equal to zero if it timed out. This value can be used to determine whether and how long to re-wait in cases where the wait returns but an awaited condition still does not hold. Typical uses of this method take the following form:

synchronized boolean aMethod(long timeout, const TimeUnit& unit) { long nanosTimeout = unit.toNanos(timeout); while (!conditionBeingWaitedFor) { if (nanosTimeout > 0) nanosTimeout = theCondition->awaitNanos(nanosTimeout); else return false; } // ... }

Design note: This method requires a nanosecond argument so as to avoid truncation errors in reporting remaining times. Such precision loss would make it difficult for programmers to ensure that total waiting times are not systematically shorter than specified when re-waits occur.

Implementation Considerations

The current thread is assumed to hold the lock associated with this **Condition** (p. 1071) when this method is called. It is up to the implementation to determine if this is the case and if not, how to respond. Typically, an exception will be thrown (such as IllegalMonitorStateException) and the implementation must document that fact.

An implementation can favor responding to an interrupt over normal method return in response to a signal, or over indicating the elapse of the specified waiting time. In either case the implementation must ensure that the signal is redirected to another waiting thread, if there is one.

Parameters:

nanosTimeout - the maximum time to wait, in nanoseconds

Returns:

an estimate of the nanosTimeout value minus the time spent waiting upon return from this method. A positive value may be used as the argument to a subsequent call to this method to finish waiting out the desired time. A value less than or equal to zero indicates that no time remains.

Exceptions:

RuntimeException if an unexpected error occurs while trying to wait on the **Condition** (p. 1071).

InterruptedException if the current thread is interrupted (and interruption of thread suspension is supported)

IllegalMonitorStateException if the caller is not the lock owner.

6.159.3.4 virtual void decaf::util::concurrent::locks::Condition::awaitUninterruptibly () [pure virtual]

Causes the current thread to wait until it is signalled. The lock associated with this condition is atomically released and the current thread becomes disabled for thread scheduling purposes and lies dormant until one of three things happens:

∗ Some other thread invokes the **signal()** (p. 1076) method for this **Condition** (p. 1071) and the current thread happens to be chosen as the thread to be awakened; or ∗ Some other thread invokes the **signalAll()** (p. 1076) method for this **Condition** (p. 1071); or ∗ A "spurious wakeup" occurs.

In all cases, before this method can return the current thread must re-acquire the lock associated with this condition. When the thread returns it is guaranteed to hold this lock.

If the current thread's interrupted status is set when it enters this method, or it is interrupted while waiting, it will continue to wait until signalled. When it finally returns from this method its interrupted status will still be set.

Implementation Considerations

The current thread is assumed to hold the lock associated with this **Condition** (p. 1071) when this method is called. It is up to the implementation to determine if this is the case and if not, how to respond. Typically, an exception will be thrown (such as IllegalMonitorStateException) and the implementation must document that fact.

Exceptions:

RuntimeException if an unexpected error occurs while trying to wait on the **Condition** (p. 1071).

IllegalMonitorStateException if the caller is not the lock owner.

6.159.3.5 virtual bool decaf::util::concurrent::locks::Condition::awaitUntil (const Date & *deadline*) [pure virtual]

6.159.3.6 virtual void decaf::util::concurrent::locks::Condition::signal () [pure virtual]

Wakes up one waiting thread. If any threads are waiting on this condition then one is selected for waking up. That thread must then re-acquire the lock before returning from await.

Exceptions:

RuntimeException if an unexpected error occurs while trying to wait on the **Condition** (p. 1071).

6.159.3.7 virtual void decaf::util::concurrent::locks::Condition::signalAll () [pure virtual]

Wakes up all waiting threads. If any threads are waiting on this condition then they are all woken up. Each thread must re-acquire the lock before it can return from await.

Exceptions:

RuntimeException if an unexpected error occurs while trying to wait on the **Condition** (p. 1071).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/locks/**Condition.h**

6.160 decaf::util::concurrent::locks::AbstractQueuedSynchronizer::Condi Class Reference

Condition (p. 1071) object for this Synchronizer, which serves as the basis for other **Lock** (p. 1913) objects.

`#include <src/main/decaf/util/concurrent/locks/AbstractQueuedSynchronizer.h>`Inheritance diagram for decaf::util::concurrent::locks::AbstractQueuedSynchronizer::ConditionObject:

Public Member Functions

- **ConditionObject** ()
- virtual ~**ConditionObject** ()

Protected Member Functions

- virtual bool **isOwnedBy** (const **AbstractQueuedSynchronizer** *sync) const =0

  *Used to check on the ownership status of this **ConditionObject** (p. 1077).*

- virtual bool **hasWaiters** () const =0

  *Returns true if there are any waiters on this **Condition** (p. 1071) object at the time of its calling.*

- virtual int **getWaitQueueLength** () const =0

  *Calculates and returns an estimate of the number of Threads that are waiting on this **Condition** (p. 1071) object.*

- virtual **Collection**< **decaf::lang::Thread** * > * **getWaitingThreads** () const =0

  *Retrieves a new **Collection** (p. 1000) object that contains Threads that may be waiting on this **Condition** (p. 1071) object.*

Friends

- class **AbstractQueuedSynchronizer**

6.160.1 Detailed Description

Condition (p. 1071) object for this Synchronizer, which serves as the basis for other **Lock** (p. 1913) objects.

6.160.2 Constructor & Destructor Documentation

6.160.2.1 decaf::util::concurrent::locks::AbstractQueuedSynchronizer::ConditionObject::ConditionO() [inline]

6.160.2.2 virtual decaf::util::concurrent::locks::AbstractQueuedSynchronizer::ConditionObject::~Condition() [inline, virtual]

6.160.3 Member Function Documentation

6.160.3.1 virtual Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::AbstractQueuedSynchronizer::ConditionObject::getWaitingTh() const [protected, pure virtual]

Retrieves a new **Collection** (p. 1000) object that contains Threads that may be waiting on this **Condition** (p. 1071) object.

Returns:

new **Collection** (p. 1000) object that holds possible waiters. Caller owns.

6.160.3.2 virtual int decaf::util::concurrent::locks::AbstractQueuedSynchronizer::ConditionObject::getWaitQueue() const [protected, pure virtual]

Calculates and returns an estimate of the number of Threads that are waiting on this **Condition** (p. 1071) object.

Returns:

count of the estimated number of waiting threads.

6.160.3.3 virtual bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::ConditionObject::hasWaiters() const [protected, pure virtual]

Returns true if there are any waiters on this **Condition** (p. 1071) object at the time of its calling.

Returns:

true if there are currently waiters false otherwise.

6.160.3.4 virtual bool decaf::util::concurrent::locks::AbstractQueuedSynchronizer::ConditionObject::isOwnedBy(const AbstractQueuedSynchronizer * *sync*) const [protected, pure virtual]

Used to check on the ownership status of this **ConditionObject** (p. 1077).

Returns:

true if the **ConditionObject** (p. 1077) is owned by the given **AbstractQueuedSynchronizer** (p. 179)

6.160.4 Friends And Related Function Documentation

6.160.4.1 friend class AbstractQueuedSynchronizer [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/locks/**AbstractQueuedSynchronizer.h**

6.161 decaf::net::ConnectException Class Reference

`#include <src/main/decaf/net/ConnectException.h>`Inheritance diagram for decaf::net::ConnectException:

Public Member Functions

- **ConnectException** ()

  Default Constructor.

- **ConnectException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **ConnectException** (const **ConnectException** &ex)

  Copy Constructor.

- **ConnectException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **ConnectException** (const std::exception *cause)

  Constructor.

- **ConnectException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **ConnectException** * **clone** () const

  Clones this exception.

- virtual ~**ConnectException** () throw ()

6.161.1 Constructor & Destructor Documentation

6.161.1.1 decaf::net::ConnectException::ConnectException ()

Default Constructor.

6.161.1.2 decaf::net::ConnectException::ConnectException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.161.1.3 decaf::net::ConnectException::ConnectException (const ConnectException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.161.1.4 decaf::net::ConnectException::ConnectException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.161.1.5 decaf::net::ConnectException::ConnectException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.161.1.6 decaf::net::ConnectException::ConnectException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.161.1.7 virtual decaf::net::ConnectException::~ConnectException () throw () [virtual]

6.161.2 Member Function Documentation

6.161.2.1 virtual ConnectException* decaf::net::ConnectException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::net::SocketException** (p. 2773).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**ConnectException.h**

6.162 cms::Connection Class Reference

The client's connection to its provider.

`#include <src/main/cms/Connection.h>`Inheritance diagram for cms::Connection:

Public Member Functions

- virtual ~**Connection** ()
- virtual void **close** ()=0

  Closes this connection as well as any Sessions created from it (and those Sessions' consumers and producers).

- virtual const **ConnectionMetaData** * **getMetaData** () const =0

  Gets the metadata for this connection.

- virtual **Session** * **createSession** ()=0

  Creates an AUTO_ ACKNOWLEDGE ***Session*** *(p. 2665).*

- virtual **Session** * **createSession** (**Session::AcknowledgeMode** ackMode)=0

  Creates a new ***Session*** *(p. 2665) to work for this* ***Connection*** *(p. 1083) using the specified acknowledgment mode.*

- virtual std::string **getClientID** () const =0

  Get the Client Id for this session, the client Id is provider specific and is either assigned by the connection factory or set using the setClientID method.

- virtual void **setClientID** (const std::string &clientID)=0

  Sets the client identifier for this connection.

- virtual **ExceptionListener** * **getExceptionListener** () const =0

  Gets the registered Exception Listener for this connection.

- virtual void **setExceptionListener** (**ExceptionListener** *listener)=0

  Sets the registered Exception Listener for this connection.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)=0

  Set an ***MessageTransformer*** *(p. 2206) instance that is passed on to all* ***Session*** *(p. 2665) objects created from this* ***Connection*** *(p. 1083).*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const =0

  Gets the currently configured ***MessageTransformer*** *(p. 2206) for this* ***Connection*** *(p. 1083).*

6.162.1 Detailed Description

The client's connection to its provider. Connections support concurrent use.

A connection serves several purposes:

- It encapsulates an open connection with a JMS provider. It typically represents an open TCP/IP socket between a client and the service provider software.
- Its creation is where client authentication takes place.
- It can specify a unique client identifier.
- It provides a **ConnectionMetaData** (p. 1134) object.
- It supports an optional **ExceptionListener** (p. 1452) object.

Because the creation of a connection involves setting up authentication and communication, a connection is a relatively heavy-weight object. Most clients will do all their messaging with a single connection. Other more advanced applications may use several connections. The CMS API does not architect a reason for using multiple connections; however, there may be operational reasons for doing so.

A CMS client typically creates a connection, one or more sessions, and a number of message producers and consumers. When a connection is created, it is in stopped mode. That means that no messages are being delivered.

It is typical to leave the connection in stopped mode until setup is complete (that is, until all message consumers have been created). At that point, the client calls the connection's start method, and messages begin arriving at the connection's consumers. This setup convention minimizes any client confusion that may result from asynchronous message delivery while the client is still in the process of setting itself up.

A connection can be started immediately, and the setup can be done afterwards. Clients that do this must be prepared to handle asynchronous message delivery while they are still in the process of setting up.

A message producer can send messages while a connection is stopped.

Since:

1.0

6.162.2 Constructor & Destructor Documentation

6.162.2.1 virtual cms::Connection::~Connection () [virtual]

6.162.3 Member Function Documentation

6.162.3.1 virtual void cms::Connection::close () [pure virtual]

Closes this connection as well as any Sessions created from it (and those Sessions' consumers and producers).

Exceptions:

CMSException (p. ***973***)

Implements **cms::Closeable** (p. 959).

Implemented in **activemq::core::ActiveMQConnection** (p. 243).

6.162.3.2 virtual Session* cms::Connection::createSession (Session::AcknowledgeMode *ackMode*) [pure virtual]

Creates a new **Session** (p. 2665) to work for this **Connection** (p. 1083) using the specified acknowledgment mode.

Parameters:

ackMode the Acknowledgment Mode to use.

Exceptions:

CMSException (p. ***973***)

Implemented in **activemq::core::ActiveMQConnection** (p. 244), and **activemq::core::ActiveMQXAConnection** (p. 537).

6.162.3.3 virtual Session* cms::Connection::createSession () [pure virtual]

Creates an AUTO_ACKNOWLEDGE **Session** (p. 2665).

Exceptions:

CMSException (p. ***973***)

Implemented in **activemq::core::ActiveMQConnection** (p. 244).

6.162.3.4 virtual std::string cms::Connection::getClientID () const [pure virtual]

Get the Client Id for this session, the client Id is provider specific and is either assigned by the connection factory or set using the setClientID method.

Returns:

Client Id String for this **Connection** (p. 1083).

Exceptions:

CMSException (p. ***973***) if the provider fails to return the client id or an internal error occurs.

Implemented in **activemq::core::ActiveMQConnection** (p. 246).

6.162.3.5 virtual ExceptionListener* cms::Connection::getExceptionListener () const [pure virtual]

Gets the registered Exception Listener for this connection.

Returns:

pointer to an exception listener or NULL

Implemented in **activemq::core::ActiveMQConnection** (p. 247).

6.162.3.6 virtual cms::MessageTransformer* cms::Connection::getMessageTransformer () const [pure virtual]

Gets the currently configured **MessageTransformer** (p. 2206) for this **Connection** (p. 1083).

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implemented in **activemq::core::ActiveMQConnection** (p. 248).

6.162.3.7 virtual const ConnectionMetaData* cms::Connection::getMetaData () const [pure virtual]

Gets the metadata for this connection.

Returns:

the connection MetaData pointer (caller does not own it).

Exceptions:

CMSException *(*p. ***973****)* if the provider fails to get the connection metadata for this connection.

See also:

ConnectionMetaData (p. 1134)

Since:

2.0

Implemented in **activemq::core::ActiveMQConnection** (p. 248).

6.162.3.8 virtual void cms::Connection::setClientID (const std::string & *clientID*) [pure virtual]

Sets the client identifier for this connection. The preferred way to assign a CMS client's client identifier is for it to be configured in a client-specific **ConnectionFactory** (p. 1108) object and transparently assigned to the **Connection** (p. 1083) object it creates.

If a client sets the client identifier explicitly, it must do so immediately after it creates the connection and before any other action on the connection is taken. After this point, setting the client identifier is a programming error that should throw an **IllegalStateException** (p. 1645).

Parameters:

clientID The unique client identifier to assign to the **Connection** (p. 1083).

Exceptions:

CMSException *(*p. ***973****)* if the provider fails to set the client id due to some internal error.

InvalidClientIDException if the id given is somehow invalid or is a duplicate.

IllegalStateException *(p. 1645)* if the client tries to set the id after a **Connection** (p. 1083) method has been called.

Implemented in **activemq::core::ActiveMQConnection** (p. 258).

6.162.3.9 virtual void cms::Connection::setExceptionListener (ExceptionListener * *listener*) [pure virtual]

Sets the registered Exception Listener for this connection.

Parameters:

listener pointer to and `ExceptionListener` (p. 1452)

Implemented in **activemq::core::ActiveMQConnection** (p. 260).

6.162.3.10 virtual void cms::Connection::setMessageTransformer (cms::MessageTransformer * *transformer*) [pure virtual]

Set an **MessageTransformer** (p. 2206) instance that is passed on to all **Session** (p. 2665) objects created from this **Connection** (p. 1083). The CMS **code** (p. 999) never takes ownership of the **MessageTransformer** (p. 2206) pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the **MessageTransformer** (p. 2206) has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to set on all newly created **Session** (p. 2665) objects.

Implemented in **activemq::core::ActiveMQConnection** (p. 261).

The documentation for this class was generated from the following file:

- src/main/cms/**Connection.h**

6.163 activemq::core::ConnectionAudit Class Reference

Provides the Auditing functionality used by Connections to attempt to filter out duplicate Messages.

`#include <src/main/activemq/core/ConnectionAudit.h>`

Public Member Functions

- **ConnectionAudit** ()
- **ConnectionAudit** (int auditDepth, int maxProducers)
- **~ConnectionAudit** ()
- void **removeDispatcher** (**Dispatcher** *dispatcher)
- bool **isDuplicate** (**Dispatcher** *dispatcher, **decaf::lang::Pointer**< **commands::Message** > message)
- void **rollbackDuplicate** (**Dispatcher** *dispatcher, **decaf::lang::Pointer**< **commands::Message** > message)
- bool **isCheckForDuplicates** () const
- void **setCheckForDuplicates** (bool checkForDuplicates)
- int **getAuditDepth** ()
- void **setAuditDepth** (int auditDepth)
- int **getAuditMaximumProducerNumber** ()
- void **setAuditMaximumProducerNumber** (int auditMaximumProducerNumber)

6.163.1 Detailed Description

Provides the Auditing functionality used by Connections to attempt to filter out duplicate Messages.

Since:

3.7.0

6.163.2 Constructor & Destructor Documentation

6.163.2.1 activemq::core::ConnectionAudit::ConnectionAudit ()

6.163.2.2 activemq::core::ConnectionAudit::ConnectionAudit (int *auditDepth*, int *maxProducers*)

6.163.2.3 activemq::core::ConnectionAudit::~ConnectionAudit ()

6.163.3 Member Function Documentation

6.163.3.1 int activemq::core::ConnectionAudit::getAuditDepth () [inline]

6.163.3.2 int activemq::core::ConnectionAudit::getAuditMaximumProducerNumber () [inline]

6.163.3.3 bool activemq::core::ConnectionAudit::isCheckForDuplicates () const [inline]

6.163.3.4 bool activemq::core::ConnectionAudit::isDuplicate (Dispatcher * *dispatcher*, decaf::lang::Pointer< commands::Message > *message*)

6.163.3.5 void activemq::core::ConnectionAudit::removeDispatcher (Dispatcher * *dispatcher*)

6.163.3.6 void activemq::core::ConnectionAudit::rollbackDuplicate (Dispatcher * *dispatcher*, decaf::lang::Pointer< commands::Message > *message*)

6.163.3.7 void activemq::core::ConnectionAudit::setAuditDepth (int *auditDepth*) [inline]

6.163.3.8 void activemq::core::ConnectionAudit::setAuditMaximumProducerNumber (int *auditMaximumProducerNumber*) [inline]

6.163.3.9 void activemq::core::ConnectionAudit::setCheckForDuplicates (bool *checkForDuplicates*) [inline]

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ConnectionAudit.h**

6.164 activemq::commands::ConnectionControl Class Reference

`#include <src/main/activemq/commands/ConnectionControl.h>`Inheritance diagram for activemq::commands::ConnectionControl:

Public Member Functions

- **ConnectionControl** ()
- virtual ~**ConnectionControl** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ConnectionControl** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual bool **isClose** () const
- virtual void **setClose** (bool **close**)
- virtual bool **isExit** () const
- virtual void **setExit** (bool **exit**)
- virtual bool **isFaultTolerant** () const
- virtual void **setFaultTolerant** (bool **faultTolerant**)
- virtual bool **isResume** () const
- virtual void **setResume** (bool **resume**)
- virtual bool **isSuspend** () const
- virtual void **setSuspend** (bool **suspend**)
- virtual const std::string & **getConnectedBrokers** () const
- virtual std::string & **getConnectedBrokers** ()
- virtual void **setConnectedBrokers** (const std::string &**connectedBrokers**)
- virtual const std::string & **getReconnectTo** () const
- virtual std::string & **getReconnectTo** ()
- virtual void **setReconnectTo** (const std::string &**reconnectTo**)
- virtual bool **isRebalanceConnection** () const
- virtual void **setRebalanceConnection** (bool **rebalanceConnection**)
- virtual const std::vector< unsigned char > & **getToken** () const
- virtual std::vector< unsigned char > & **getToken** ()
- virtual void **setToken** (const std::vector< unsigned char > &**token**)
- virtual bool **isConnectionControl** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_CONNECTIONCONTROL** = 18

Protected Attributes

- bool **close**
- bool **exit**
- bool **faultTolerant**
- bool **resume**
- bool **suspend**
- std::string **connectedBrokers**
- std::string **reconnectTo**
- bool **rebalanceConnection**
- std::vector< unsigned char > **token**

6.164.1 Constructor & Destructor Documentation

6.164.1.1 activemq::commands::ConnectionControl::ConnectionControl ()

6.164.1.2 virtual activemq::commands::ConnectionControl::~ConnectionControl () [virtual]

6.164.2 Member Function Documentation

6.164.2.1 virtual ConnectionControl* activemq::commands::ConnectionControl::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.164.2.2 virtual void activemq::commands::ConnectionControl::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.164.2.3 virtual bool activemq::commands::ConnectionControl::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.164.2.4 virtual std::string& activemq::commands::ConnectionControl::getConnectedBrokers () [virtual]

6.164.2.5 virtual const std::string& activemq::commands::ConnectionControl::getConnectedBrokers () const [virtual]

6.164.2.6 virtual unsigned char activemq::commands::ConnectionControl::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.164.2.7 virtual std::string& activemq::commands::ConnectionControl::getReconnectTo () [virtual]

6.164.2.8 virtual const std::string& activemq::commands::ConnectionControl::getReconnectTo () const [virtual]

6.164.2.9 virtual std::vector<unsigned char>& activemq::commands::ConnectionControl::getToken () [virtual]

6.164.2.10 virtual const std::vector<unsigned char>& activemq::commands::ConnectionControl::getToken () const [virtual]

6.164.2.11 virtual bool activemq::commands::ConnectionControl::isClose () const [virtual]

6.164.2.12 virtual bool activemq::commands::ConnectionControl::isConnectionControl () const [inline, virtual]

Returns:

an answer of true to the **isConnectionControl()** (p. 1093) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 631).

6.164.2.13 virtual bool activemq::commands::ConnectionControl::isExit () const [virtual]

6.164.2.14 virtual bool activemq::commands::ConnectionControl::isFaultTolerant () const [virtual]

6.164.2.15 virtual bool activemq::commands::ConnectionControl::isRebalanceConnection () const [virtual]

6.164.2.16 virtual bool activemq::commands::ConnectionControl::isResume () const [virtual]

6.164.2.17 virtual bool activemq::commands::ConnectionControl::isSuspend () const [virtual]

6.164.2.18 virtual void activemq::commands::ConnectionControl::setClose (bool *close*) [virtual]

6.164.2.19 virtual void activemq::commands::ConnectionControl::setConnectedBrokers (const std::string & *connectedBrokers*) [virtual]

6.164.2.20 virtual void activemq::commands::ConnectionControl::setExit (bool *exit*) [virtual]

6.164.2.21 virtual void activemq::commands::ConnectionControl::setFaultTolerant (bool *faultTolerant*) [virtual]

6.164.2.22 virtual void activemq::commands::ConnectionControl::setRebalanceConnection (bool *rebalanceConnection*) [virtual]

6.164.2.23 virtual void activemq::commands::ConnectionControl::setReconnectTo (const std::string & *reconnectTo*) [virtual]

6.164.2.24 virtual void activemq::commands::ConnectionControl::setResume (bool *resume*) [virtual]

6.164.2.25 virtual void activemq::commands::ConnectionControl::setSuspend (bool *suspend*) [virtual]

6.164.2.26 virtual void activemq::commands::ConnectionControl::setToken (const std::vector< unsigned char > & *token*) [virtual]

6.164.2.27 virtual std::string activemq::commands::ConnectionControl::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.164.2.28 virtual Pointer<Command> activemq::commands::ConnectionControl::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.164.3 Field Documentation

6.164.3.1 bool activemq::commands::ConnectionControl::close [protected]

6.164.3.2 std::string activemq::commands::ConnectionControl::connectedBrokers [protected]

6.164.3.3 bool activemq::commands::ConnectionControl::exit [protected]

6.164.3.4 bool activemq::commands::ConnectionControl::faultTolerant [protected]

6.164.3.5 const unsigned char activemq::commands::ConnectionControl::ID_CONNECTIONCONTROL = 18 [static]

6.164.3.6 bool activemq::commands::ConnectionControl::rebalanceConnection [protected]

6.164.3.7 std::string activemq::commands::ConnectionControl::reconnectTo [protected]

6.164.3.8 bool activemq::commands::ConnectionControl::resume [protected]

6.164.3.9 bool activemq::commands::ConnectionControl::suspend [protected]

6.164.3.10 std::vector<unsigned char> activemq::commands::ConnectionControl::token [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ConnectionControl.h**

6.165 activemq::wireformat::openwire::marshal::generated::ConnectionC Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ConnectionControlMarshaller** (p. 1096).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ConnectionControlMarshaller.h>`
diagram for activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller:

Public Member Functions

- **ConnectionControlMarshaller** ()
- virtual ~**ConnectionControlMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.165.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ConnectionControlMarshaller** (p. 1096). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.165.2 Constructor & Destructor Documentation

6.165.2.1 activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller::Conne

() [inline]

6.165.2.2 virtual activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller::~Con

() [inline, virtual]

6.165.3 Member Function Documentation

6.165.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller::createO

() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.165.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller::getData

() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.165.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller::looseMa

(**OpenWireFormat** * *format*, **commands::DataStructure** * *command*, **decaf::io::DataOutputStream** * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.165.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller::looseUn (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.165.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller::tightMa (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.165.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller::tightMa (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.165.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller::tightUn (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ConnectionControlMarshaller.h**

6.166 activemq::commands::ConnectionError Class Reference

`#include <src/main/activemq/commands/ConnectionError.h>`Inheritance diagram for activemq::commands::ConnectionError:

Public Member Functions

- **ConnectionError** ()
- virtual ~**ConnectionError** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ConnectionError** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **BrokerError** > & **getException** () const
- virtual **Pointer**< **BrokerError** > & **getException** ()
- virtual void **setException** (const **Pointer**< **BrokerError** > &**exception**)
- virtual const **Pointer**< **ConnectionId** > & **getConnectionId** () const
- virtual **Pointer**< **ConnectionId** > & **getConnectionId** ()
- virtual void **setConnectionId** (const **Pointer**< **ConnectionId** > &**connectionId**)
- virtual bool **isConnectionError** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_CONNECTIONERROR** = 16

Protected Attributes

- **Pointer**< **BrokerError** > **exception**
- **Pointer**< **ConnectionId** > **connectionId**

6.166.1 Constructor & Destructor Documentation

6.166.1.1 activemq::commands::ConnectionError::ConnectionError ()

6.166.1.2 virtual activemq::commands::ConnectionError::~ConnectionError () [virtual]

6.166.2 Member Function Documentation

6.166.2.1 virtual ConnectionError* activemq::commands::ConnectionError::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.166.2.2 virtual void activemq::commands::ConnectionError::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.166.2.3 virtual bool activemq::commands::ConnectionError::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.166.2.4 virtual Pointer<ConnectionId>& activemq::commands::ConnectionError::getConnectionId () [virtual]

6.166.2.5 virtual const Pointer<ConnectionId>& activemq::commands::ConnectionError::getConnectionId () const [virtual]

6.166.2.6 virtual unsigned char activemq::commands::ConnectionError::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.166.2.7 virtual Pointer<BrokerError>& activemq::commands::ConnectionError::getException () [virtual]

6.166.2.8 virtual const Pointer<BrokerError>& activemq::commands::ConnectionError::getException () const [virtual]

6.166.2.9 virtual bool activemq::commands::ConnectionError::isConnectionError () const [inline, virtual]

Returns:

an answer of true to the **isConnectionError()** (p. 1102) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 631).

6.166.2.10 virtual void activemq::commands::ConnectionError::setConnectionId (const Pointer< ConnectionId > & *connectionId*) [virtual]

6.166.2.11 virtual void activemq::commands::ConnectionError::setException (const Pointer< BrokerError > & *exception*) [virtual]

6.166.2.12 virtual std::string activemq::commands::ConnectionError::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.166.2.13 virtual Pointer<Command> activemq::commands::ConnectionError::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.166.3 Field Documentation

6.166.3.1 Pointer<ConnectionId> activemq::commands::ConnectionError::connectionId [protected]

6.166.3.2 Pointer<BrokerError> activemq::commands::ConnectionError::exception [protected]

6.166.3.3 const unsigned char activemq::commands::ConnectionError::ID_CONNECTIONERROR = 16 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ConnectionError.h**

6.167 activemq::wireformat::openwire::marshal::generated::ConnectionE Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ConnectionErrorMarshaller** (p. 1104).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ConnectionErrorMarshaller.h>`In diagram for activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller:

Public Member Functions

- **ConnectionErrorMarshaller** ()
- virtual ~**ConnectionErrorMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.167.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ConnectionErrorMarshaller** (p. 1104). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.167.2 Constructor & Destructor Documentation

6.167.2.1 activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller::Connect () [inline]

6.167.2.2 virtual activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller::~Conne () [inline, virtual]

6.167.3 Member Function Documentation

6.167.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller::createObj () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.167.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller::getDataSt () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.167.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller::looseMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.167.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller::looseUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.167.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller::tightMarsl (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.167.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller::tightMarsl (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.167.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller::tightUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ConnectionErrorMarshaller.h**

6.168 cms::ConnectionFactory Class Reference

Defines the interface for a factory that creates connection objects, the **Connection** (p. 1083) objects returned implement the CMS **Connection** (p. 1083) interface and hide the CMS Provider specific implementation details behind that interface.

`#include <src/main/cms/ConnectionFactory.h>`Inheritance diagram for cms::ConnectionFactory:

Public Member Functions

- virtual ~**ConnectionFactory** ()
- virtual **cms::Connection** * **createConnection** ()=0

  Creates a connection with the default user identity.

- virtual **cms::Connection** * **createConnection** (const std::string &username, const std::string &password)=0

  Creates a connection with the default specified identity.

- virtual **cms::Connection** * **createConnection** (const std::string &username, const std::string &password, const std::string &clientId)=0

  Creates a connection with the specified user identity.

- virtual void **setExceptionListener** (**cms::ExceptionListener** *listener)=0

  *Set an **ExceptionListener** (p. 1452) instance that is passed on to all **Connection** (p. 1083) objects created from this **ConnectionFactory** (p. 1108).*

- virtual **cms::ExceptionListener** * **getExceptionListener** () const =0

  *Gets the currently configured **ExceptionListener** (p. 1452) for this **ConnectionFactory** (p. 1108).*

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)=0

  *Set an **MessageTransformer** (p. 2206) instance that is passed on to all **Connection** (p. 1083) objects created from this **ConnectionFactory** (p. 1108).*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const =0

  *Gets the currently configured **MessageTransformer** (p. 2206) for this **ConnectionFactory** (p. 1108).*

Static Public Member Functions

- static **cms::ConnectionFactory** * **createCMSConnectionFactory** (const std::string &brokerURI)

  Static method that is used to create a provider specific connection factory.

6.168.1 Detailed Description

Defines the interface for a factory that creates connection objects, the **Connection** (p. 1083) objects returned implement the CMS **Connection** (p. 1083) interface and hide the CMS Provider specific implementation details behind that interface. A Client creates a new **ConnectionFactory** (p. 1108) either directly by instantiating the provider specific implementation of the factory or by using the static method `createCMSConnectionFactory` which all providers are required to implement.

Since:

1.0

6.168.2 Constructor & Destructor Documentation

6.168.2.1 virtual cms::ConnectionFactory::~ConnectionFactory () [virtual]

6.168.3 Member Function Documentation

6.168.3.1 static cms::ConnectionFactory* cms::ConnectionFactory::createCMSConnectionFactory (const std::string & *brokerURI*) [static]

Static method that is used to create a provider specific connection factory. The provider implements this method in their library and returns an instance of a **ConnectionFactory** (p. 1108) derived object. Clients can use this method to remain abstracted from the specific CMS implementation being used.

Parameters:

brokerURI The remote address to use to connect to the Provider.

Returns:

A pointer to a provider specific implementation of the **ConnectionFactory** (p. 1108) interface, the caller is responsible for deleting this resource.

Exceptions:

CMSException *(p. 973)* if an internal error occurs while creating the **ConnectionFactory** (p. 1108).

6.168.3.2 virtual cms::Connection* cms::ConnectionFactory::createConnection (const std::string & *username*, const std::string & *password*, const std::string & *clientId*) [pure virtual]

Creates a connection with the specified user identity. The connection is created in stopped mode. No messages will be delivered until the **Connection.start** (p. 2836) method is explicitly called. The user name and password values passed here do not change the defaults, subsequent calls to the parameterless createConnection will continue to use the default values that were set in the Constructor.

Parameters:

username The user name used to authenticate with the Provider.

password The password used to authenticate with the Provider.

clientId The Client Id assigned to connection. If the id is the empty string ("") then a random client Id is created for this connection.

Returns:

A pointer to a connection object, caller owns the pointer and is responsible for closing the connection and deleting the instance.

Exceptions:

CMSException *(p. 973)* if an internal error occurs while creating the **Connection** (p. 1083).

Implemented in **activemq::core::ActiveMQConnectionFactory** (p. 273).

6.168.3.3 virtual cms::Connection* cms::ConnectionFactory::createConnection (const std::string & *username*, const std::string & *password*) [pure virtual]

Creates a connection with the default specified identity. The connection is created in stopped mode. No messages will be delivered until the **Connection.start** (p. 2836) method is explicitly called. The username and password values passed here do not change the defaults, subsequent calls to the parameterless createConnection will continue to use the default values that were set in the Constructor.

Parameters:

username The user name used to authenticate with the Provider.

password The password used to authenticate with the Provider.

Returns:

A pointer to a connection object, caller owns the pointer and is responsible for closing the connection and deleting the instance.

Exceptions:

CMSException *(p. 973)* if an internal error occurs while creating the **Connection** (p. 1083).

Implemented in **activemq::core::ActiveMQConnectionFactory** (p. 273).

6.168.3.4 virtual cms::Connection* cms::ConnectionFactory::createConnection () [pure virtual]

Creates a connection with the default user identity. The connection is created in stopped mode. No messages will be delivered until the **Connection.start** (p. 2836) method is explicitly called.

Returns:

A pointer to a connection object, caller owns the pointer and is responsible for closing the connection and deleting the instance.

Exceptions:

CMSException *(*p. *973)* if an internal error occurs while creating the **Connection** (p. 1083).

Implemented in **activemq::core::ActiveMQConnectionFactory** (p. 274).

6.168.3.5 virtual cms::ExceptionListener* cms::ConnectionFactory::getExceptionListener () const [pure virtual]

Gets the currently configured **ExceptionListener** (p. 1452) for this **ConnectionFactory** (p. 1108). The CMS **code** (p. 999) never takes ownership of the **ExceptionListener** (p. 1452) pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the **ExceptionListener** (p. 1452) has been assigned.

Returns:

the pointer to the currently set **cms::ExceptionListener** (p. 1452).

Implemented in **activemq::core::ActiveMQConnectionFactory** (p. 276).

6.168.3.6 virtual cms::MessageTransformer* cms::ConnectionFactory::getMessageTransformer () const [pure virtual]

Gets the currently configured **MessageTransformer** (p. 2206) for this **ConnectionFactory** (p. 1108).

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implemented in **activemq::core::ActiveMQConnectionFactory** (p. 276).

6.168.3.7 virtual void cms::ConnectionFactory::setExceptionListener (cms::ExceptionListener * *listener*) [pure virtual]

Set an **ExceptionListener** (p. 1452) instance that is passed on to all **Connection** (p. 1083) objects created from this **ConnectionFactory** (p. 1108).

Parameters:

transformer Pointer to the **cms::ExceptionListener** (p. 1452) to set on all newly created **Connection** (p. 1083) objects/

Implemented in **activemq::core::ActiveMQConnectionFactory** (p. 282).

6.168.3.8 virtual void cms::ConnectionFactory::setMessageTransformer (cms::MessageTransformer * *transformer*) [pure virtual]

Set an **MessageTransformer** (p. 2206) instance that is passed on to all **Connection** (p. 1083) objects created from this **ConnectionFactory** (p. 1108). The CMS **code** (p. 999) never takes

ownership of the **MessageTransformer** (p. 2206) pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the **MessageTransformer** (p. 2206) has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to set on all newly created **Connection** (p. 1083) objects.

Implemented in **activemq::core::ActiveMQConnectionFactory** (p. 283).

The documentation for this class was generated from the following file:

- src/main/cms/**ConnectionFactory.h**

6.169 activemq::exceptions::ConnectionFailedException Class Reference

`#include <src/main/activemq/exceptions/ConnectionFailedException.h>`Inheritance diagram for activemq::exceptions::ConnectionFailedException:

Public Member Functions

- **ConnectionFailedException** ()
- **ConnectionFailedException** (const **exceptions::ActiveMQException** &ex)
- **ConnectionFailedException** (const **ConnectionFailedException** &ex)
- **ConnectionFailedException** (const char *file, const int lineNumber, const char *msg,...)
- virtual ~**ConnectionFailedException** () throw ()
- virtual **ConnectionFailedException** * **clone** () const

  Clones this exception.

6.169.1 Constructor & Destructor Documentation

6.169.1.1 activemq::exceptions::ConnectionFailedException::ConnectionFailedException ()

6.169.1.2 activemq::exceptions::ConnectionFailedException::ConnectionFailedException (const exceptions::ActiveMQException & *ex*)

6.169.1.3 activemq::exceptions::ConnectionFailedException::ConnectionFailedException (const ConnectionFailedException & *ex*)

6.169.1.4 activemq::exceptions::ConnectionFailedException::ConnectionFailedException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

6.169.1.5 virtual activemq::exceptions::ConnectionFailedException::~ConnectionFailedException () throw () `[virtual]`

6.169.2 Member Function Documentation

6.169.2.1 virtual ConnectionFailedException* activemq::exceptions::ConnectionFailedException::clone () const `[virtual]`

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

Copy of this Exception object

Reimplemented from **activemq::exceptions::ActiveMQException** (p. 336).

The documentation for this class was generated from the following file:

- src/main/activemq/exceptions/**ConnectionFailedException.h**

6.170 activemq::commands::ConnectionId Class Reference

`#include <src/main/activemq/commands/ConnectionId.h>`Inheritance diagram for activemq::commands::ConnectionId:

Public Types

- typedef **decaf::lang::PointerComparator< ConnectionId > COMPARATOR**

Public Member Functions

- **ConnectionId** ()
- **ConnectionId** (const **ConnectionId** &other)
- **ConnectionId** (const **SessionId** *sessionId)
- **ConnectionId** (const **ProducerId** *producerId)
- **ConnectionId** (const **ConsumerId** *consumerId)
- virtual ~**ConnectionId** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ConnectionId** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const std::string & **getValue** () const
- virtual std::string & **getValue** ()
- virtual void **setValue** (const std::string &**value**)
- virtual int **compareTo** (const **ConnectionId** &**value**) const
- virtual bool **equals** (const **ConnectionId** &**value**) const
- virtual bool **operator==** (const **ConnectionId** &**value**) const
- virtual bool **operator<** (const **ConnectionId** &**value**) const
- **ConnectionId** & **operator=** (const **ConnectionId** &other)
- int **getHashCode** () const

Static Public Attributes

- static const unsigned char **ID_CONNECTIONID** = 120

Protected Attributes

- std::string **value**

6.170.1 Member Typedef Documentation

6.170.1.1 typedef decaf::lang::PointerComparator<ConnectionId> activemq::commands::ConnectionId::COMPARATOR

6.170.2 Constructor & Destructor Documentation

6.170.2.1 activemq::commands::ConnectionId::ConnectionId ()

6.170.2.2 activemq::commands::ConnectionId::ConnectionId (const ConnectionId & *other*)

6.170.2.3 activemq::commands::ConnectionId::ConnectionId (const SessionId * *sessionId*)

6.170.2.4 activemq::commands::ConnectionId::ConnectionId (const ProducerId * *producerId*)

6.170.2.5 activemq::commands::ConnectionId::ConnectionId (const ConsumerId * *consumerId*)

6.170.2.6 virtual activemq::commands::ConnectionId::~ConnectionId () [virtual]

6.170.3 Member Function Documentation

6.170.3.1 virtual ConnectionId* activemq::commands::ConnectionId::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.170.3.2 virtual int activemq::commands::ConnectionId::compareTo (const ConnectionId & *value*) const [virtual]

6.170.3.3 virtual void activemq::commands::ConnectionId::copyDataStructure (const DataStructure * *src*) [virtual]

6.170.3.4 virtual bool activemq::commands::ConnectionId::equals (const ConnectionId & *value*) const [virtual]

6.170.3.5 virtual bool activemq::commands::ConnectionId::equals (const DataStructure * *value*) const [virtual]

6.170.3.6 virtual unsigned char activemq::commands::ConnectionId::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.170.3.7 int activemq::commands::ConnectionId::getHashCode () const

6.170.3.8 virtual std::string& activemq::commands::ConnectionId::getValue () [virtual]

6.170.3.9 virtual const std::string& activemq::commands::ConnectionId::getValue () const [virtual]

6.170.3.10 virtual bool activemq::commands::ConnectionId::operator< (const ConnectionId & *value*) const [virtual]

6.170.3.11 ConnectionId& activemq::commands::ConnectionId::operator= (const ConnectionId & *other*)

6.170.3.12 virtual bool activemq::commands::ConnectionId::operator== (const ConnectionId & *value*) const [virtual]

6.170.3.13 virtual void activemq::commands::ConnectionId::setValue (const std::string & *value*) [virtual]

6.170.3.14 virtual std::string activemq::commands::ConnectionId::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.170.4 Field Documentation

6.170.4.1 const unsigned char activemq::commands::ConnectionId::ID_CONNECTIONID = 120 [static]

6.170.4.2 std::string activemq::commands::ConnectionId::value [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ConnectionId.h**

6.171 activemq::wireformat::openwire::marshal::generated::ConnectionId Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ConnectionIdMarshaller** (p. 1119).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ConnectionIdMarshaller.h>` Inheri
diagram for activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller:

Public Member Functions

- **ConnectionIdMarshaller** ()
- virtual ~**ConnectionIdMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.171.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ConnectionIdMarshaller** (p. 1119). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.171.2 Constructor & Destructor Documentation

6.171.2.1 activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller::Connection

() [inline]

6.171.2.2 virtual activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller::~Connectio

() [inline, virtual]

6.171.3 Member Function Documentation

6.171.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller::createObject

() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.171.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller::getDataStruc

() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.171.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller::looseMarshal

(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.171.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller::looseUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.171.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.171.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.171.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller::tightUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ConnectionIdMarshaller.h**

6.172 activemq::commands::ConnectionInfo Class Reference

`#include <src/main/activemq/commands/ConnectionInfo.h>`Inheritance diagram for activemq::commands::ConnectionInfo:

Public Member Functions

- **ConnectionInfo** ()
- virtual ~**ConnectionInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ConnectionInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- **Pointer**< **RemoveInfo** > **createRemoveCommand** () const
- virtual const **Pointer**< **ConnectionId** > & **getConnectionId** () const
- virtual **Pointer**< **ConnectionId** > & **getConnectionId** ()
- virtual void **setConnectionId** (const **Pointer**< **ConnectionId** > &**connectionId**)
- virtual const std::string & **getClientId** () const
- virtual std::string & **getClientId** ()
- virtual void **setClientId** (const std::string &**clientId**)
- virtual const std::string & **getPassword** () const
- virtual std::string & **getPassword** ()
- virtual void **setPassword** (const std::string &**password**)
- virtual const std::string & **getUserName** () const
- virtual std::string & **getUserName** ()
- virtual void **setUserName** (const std::string &**userName**)
- virtual const std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** () const
- virtual std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** ()
- virtual void **setBrokerPath** (const std::vector< **decaf::lang::Pointer**< **BrokerId** > > &**brokerPath**)
- virtual bool **isBrokerMasterConnector** () const
- virtual void **setBrokerMasterConnector** (bool **brokerMasterConnector**)
- virtual bool **isManageable** () const
- virtual void **setManageable** (bool **manageable**)
- virtual bool **isClientMaster** () const
- virtual void **setClientMaster** (bool **clientMaster**)

- virtual bool **isFaultTolerant** () const
- virtual void **setFaultTolerant** (bool **faultTolerant**)
- virtual bool **isFailoverReconnect** () const
- virtual void **setFailoverReconnect** (bool **failoverReconnect**)
- virtual const std::string & **getClientIp** () const
- virtual std::string & **getClientIp** ()
- virtual void **setClientIp** (const std::string &**clientIp**)
- virtual bool **isConnectionInfo** () const
- virtual **Pointer< Command > visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_CONNECTIONINFO** = 3

Protected Attributes

- **Pointer< ConnectionId > connectionId**
- std::string **clientId**
- std::string **password**
- std::string **userName**
- std::vector< **decaf::lang::Pointer< BrokerId > > brokerPath**
- bool **brokerMasterConnector**
- bool **manageable**
- bool **clientMaster**
- bool **faultTolerant**
- bool **failoverReconnect**
- std::string **clientIp**

6.172.1 Constructor & Destructor Documentation

6.172.1.1 activemq::commands::ConnectionInfo::ConnectionInfo ()

6.172.1.2 virtual activemq::commands::ConnectionInfo::~ConnectionInfo () [virtual]

6.172.2 Member Function Documentation

6.172.2.1 virtual ConnectionInfo* activemq::commands::ConnectionInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.172.2.2 virtual void activemq::commands::ConnectionInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.172.2.3 Pointer<RemoveInfo> activemq::commands::ConnectionInfo::createRemoveCommand () const

6.172.2.4 virtual bool activemq::commands::ConnectionInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.172.2.5 virtual std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::ConnectionInfo::getBrokerPath () [virtual]

6.172.2.6 virtual const std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::ConnectionInfo::getBrokerPath () const [virtual]

6.172.2.7 virtual std::string& activemq::commands::ConnectionInfo::getClientId () [virtual]

6.172.2.8 virtual const std::string& activemq::commands::ConnectionInfo::getClientId () const [virtual]

6.172.2.9 virtual std::string& activemq::commands::ConnectionInfo::getClientIp () [virtual]

6.172.2.10 virtual const std::string& activemq::commands::ConnectionInfo::getClientIp () const [virtual]

6.172.2.11 virtual Pointer<ConnectionId>& activemq::commands::ConnectionInfo::getConnectionId () [virtual]

6.172.2.12 virtual const Pointer<ConnectionId>& activemq::commands::ConnectionInfo::getConnectionId () const [virtual]

6.172.2.13 virtual unsigned char activemq::commands::ConnectionInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.172.2.14 virtual std::string& activemq::commands::ConnectionInfo::getPassword () [virtual]

6.172.2.15 virtual const std::string& activemq::commands::ConnectionInfo::getPassword () const [virtual]

6.172.2.16 virtual std::string& activemq::commands::ConnectionInfo::getUserName () [virtual]

6.172.2.17 virtual const std::string& activemq::commands::ConnectionInfo::getUserName () const [virtual]

6.172.2.18 virtual bool activemq::commands::ConnectionInfo::isBrokerMasterConnector () const [virtual]

6.172.2.19 virtual bool activemq::commands::ConnectionInfo::isClientMaster () const [virtual]

6.172.2.20 virtual bool activemq::commands::ConnectionInfo::isConnectionInfo () const [inline, virtual]

Returns:

an answer of true to the **isConnectionInfo()** (p. 1127) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 631).

6.172.2.21 virtual bool activemq::commands::ConnectionInfo::isFailoverReconnect () const [virtual]

6.172.2.22 virtual bool activemq::commands::ConnectionInfo::isFaultTolerant () const [virtual]

6.172.2.23 virtual bool activemq::commands::ConnectionInfo::isManageable () const [virtual]

6.172.2.24 virtual void activemq::commands::ConnectionInfo::setBrokerMasterConnector (bool *brokerMasterConnector*) [virtual]

6.172.2.25 virtual void activemq::commands::ConnectionInfo::setBrokerPath (const std::vector< decaf::lang::Pointer< BrokerId > > & *brokerPath*) [virtual]

6.172.2.26 virtual void activemq::commands::ConnectionInfo::setClientId (const std::string & *clientId*) [virtual]

6.172.2.27 virtual void activemq::commands::ConnectionInfo::setClientIp (const std::string & *clientIp*) [virtual]

6.172.2.28 virtual void activemq::commands::ConnectionInfo::setClientMaster (bool *clientMaster*) [virtual]

6.172.2.29 virtual void activemq::commands::ConnectionInfo::setConnectionId (const Pointer< ConnectionId > & *connectionId*) [virtual]

6.172.2.30 virtual void activemq::commands::ConnectionInfo::setFailoverReconnect (bool *failoverReconnect*) [virtual]

6.172.2.31 virtual void activemq::commands::ConnectionInfo::setFaultTolerant (bool *faultTolerant*) [virtual]

6.172.2.32 virtual void activemq::commands::ConnectionInfo::setManageable (bool *manageable*) [virtual]

6.172.2.33 virtual void activemq::commands::ConnectionInfo::setPassword (const std::string & *password*) [virtual]

6.172.2.34 virtual void activemq::commands::ConnectionInfo::setUserName (const std::string & *userName*) [virtual]

6.172.2.35 virtual std::string activemq::commands::ConnectionInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.172.2.36 virtual Pointer<Command> activemq::commands::ConnectionInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.172.3 Field Documentation

6.172.3.1 bool activemq::commands::ConnectionInfo::brokerMasterConnector [protected]

6.172.3.2 std::vector< decaf::lang::Pointer<BrokerId> > activemq::commands::ConnectionInfo::brokerPath [protected]

6.172.3.3 std::string activemq::commands::ConnectionInfo::clientId [protected]

6.172.3.4 std::string activemq::commands::ConnectionInfo::clientIp [protected]

6.172.3.5 bool activemq::commands::ConnectionInfo::clientMaster [protected]

6.172.3.6 Pointer<ConnectionId> activemq::commands::ConnectionInfo::connectionId [protected]

6.172.3.7 bool activemq::commands::ConnectionInfo::failoverReconnect [protected]

6.172.3.8 bool activemq::commands::ConnectionInfo::faultTolerant [protected]

6.172.3.9 const unsigned char activemq::commands::ConnectionInfo::ID_CONNECTIONINFO = 3 [static]

6.172.3.10 bool activemq::commands::ConnectionInfo::manageable [protected]

6.172.3.11 std::string activemq::commands::ConnectionInfo::password [protected]

6.172.3.12 std::string activemq::commands::ConnectionInfo::userName [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ConnectionInfo.h**

6.173 activemq::wireformat::openwire::marshal::generated::ConnectionIn Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ConnectionInfoMarshaller** (p. 1130).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ConnectionInfoMarshaller.h>`Inh
diagram for activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller:

Public Member Functions

- **ConnectionInfoMarshaller** ()
- virtual ~**ConnectionInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.173.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ConnectionInfoMarshaller** (p. 1130). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.173.2 Constructor & Destructor Documentation

6.173.2.1 activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller::Connectio () [inline]

6.173.2.2 virtual activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller::~Connect () [inline, virtual]

6.173.3 Member Function Documentation

6.173.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller::createObjec () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.173.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller::getDataStru () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.173.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller::looseMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.173.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller::looseUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.173.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller::tightMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.173.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller::tightMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.173.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller::tightUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ConnectionInfoMarshaller.h**

6.174 cms::ConnectionMetaData Class Reference

A **ConnectionMetaData** (p. 1134) object provides information describing the **Connection** (p. 1083) object.

`#include <src/main/cms/ConnectionMetaData.h>`Inheritance diagram for cms::ConnectionMetaData:

Public Member Functions

- virtual ~**ConnectionMetaData** ()
- virtual std::string **getCMSVersion** () const =0

  Gets the CMS API version.

- virtual int **getCMSMajorVersion** () const =0

  Gets the CMS major version number.

- virtual int **getCMSMinorVersion** () const =0

  Gets the CMS minor version number.

- virtual std::string **getCMSProviderName** () const =0

  Gets the CMS provider name.

- virtual std::string **getProviderVersion** () const =0

  Gets the CMS provider version.

- virtual int **getProviderMajorVersion** () const =0

  Gets the CMS provider major version number.

- virtual int **getProviderMinorVersion** () const =0

  Gets the CMS provider minor version number.

- virtual int **getProviderPatchVersion** () const =0

  Gets the CMS provider patch version number.

- virtual std::vector< std::string > **getCMSXPropertyNames** () const =0

  Gets an Vector of the CMSX property names.

6.174.1 Detailed Description

A **ConnectionMetaData** (p. 1134) object provides information describing the **Connection** (p. 1083) object.

Since:

1.3

6.174.2 Constructor & Destructor Documentation

6.174.2.1 virtual cms::ConnectionMetaData::~ConnectionMetaData () [virtual]

6.174.3 Member Function Documentation

6.174.3.1 virtual int cms::ConnectionMetaData::getCMSMajorVersion () const [pure virtual]

Gets the CMS major version number.

Returns:

the CMS API major version number

Exceptions:

CMSException *(*p. ***973****)* If the CMS Provider fails to retrieve the metadata due to some internal error.

Implemented in **activemq::core::ActiveMQConnectionMetaData** (p. 289).

6.174.3.2 virtual int cms::ConnectionMetaData::getCMSMinorVersion () const [pure virtual]

Gets the CMS minor version number.

Returns:

the CMS API minor version number

Exceptions:

CMSException *(*p. ***973****)* If the CMS Provider fails to retrieve the metadata due to some internal error.

Implemented in **activemq::core::ActiveMQConnectionMetaData** (p. 289).

6.174.3.3 virtual std::string cms::ConnectionMetaData::getCMSProviderName () const [pure virtual]

Gets the CMS provider name.

Returns:

the CMS provider name

Exceptions:

CMSException *(*p. ***973****)* If the CMS Provider fails to retrieve the metadata due to some internal error.

Implemented in **activemq::core::ActiveMQConnectionMetaData** (p. 289).

6.174.3.4 virtual std::string cms::ConnectionMetaData::getCMSVersion () const [pure virtual]

Gets the CMS API version.

Returns:

the CMS API Version in String form.

Exceptions:

CMSException *(*p. ***973****)* If the CMS Provider fails to retrieve the metadata due to some internal error.

Implemented in **activemq::core::ActiveMQConnectionMetaData** (p. 290).

6.174.3.5 virtual std::vector<std::string> cms::ConnectionMetaData::getCMSXPropertyNames () const [pure virtual]

Gets an Vector of the CMSX property names.

Returns:

an Vector of CMSX property names

Exceptions:

CMSException *(*p. ***973****)* If the CMS Provider fails to retrieve the metadata due to some internal error.

Implemented in **activemq::core::ActiveMQConnectionMetaData** (p. 290).

6.174.3.6 virtual int cms::ConnectionMetaData::getProviderMajorVersion () const [pure virtual]

Gets the CMS provider major version number.

Returns:

the CMS provider major version number

Exceptions:

CMSException *(*p. ***973****)* If the CMS Provider fails to retrieve the metadata due to some internal error.

Implemented in **activemq::core::ActiveMQConnectionMetaData** (p. 290).

6.174.3.7 virtual int cms::ConnectionMetaData::getProviderMinorVersion () const [pure virtual]

Gets the CMS provider minor version number.

Returns:

the CMS provider minor version number

Exceptions:

CMSException *(*p. ***973****)* If the CMS Provider fails to retrieve the metadata due to some internal error.

Implemented in **activemq::core::ActiveMQConnectionMetaData** (p. 291).

6.174.3.8 virtual int cms::ConnectionMetaData::getProviderPatchVersion () const [pure virtual]

Gets the CMS provider patch version number.

Returns:

the CMS provider patch version number

Exceptions:

CMSException *(*p. ***973****)* If the CMS Provider fails to retrieve the metadata due to some internal error.

Implemented in **activemq::core::ActiveMQConnectionMetaData** (p. 291).

6.174.3.9 virtual std::string cms::ConnectionMetaData::getProviderVersion () const [pure virtual]

Gets the CMS provider version.

Returns:

the CMS provider version

Exceptions:

CMSException *(*p. ***973****)* If the CMS Provider fails to retrieve the metadata due to some internal error.

Implemented in **activemq::core::ActiveMQConnectionMetaData** (p. 291).

The documentation for this class was generated from the following file:

- src/main/cms/**ConnectionMetaData.h**

6.175 activemq::state::ConnectionState Class Reference

`#include <src/main/activemq/state/ConnectionState.h>`

Public Member Functions

- **ConnectionState** (**Pointer**< **ConnectionInfo** > info)
- virtual ~**ConnectionState** ()
- std::string **toString** () const
- const **Pointer**< **commands::ConnectionInfo** > **getInfo** () const
- void **checkShutdown** () const
- void **shutdown** ()
- void **reset** (**Pointer**< **ConnectionInfo** > info)
- void **addTempDestination** (**Pointer**< **DestinationInfo** > info)
- void **removeTempDestination** (**Pointer**< **ActiveMQDestination** > destination)
- void **addTransactionState** (**Pointer**< **TransactionId** > id)
- const **Pointer**< **TransactionState** > & **getTransactionState** (**Pointer**< **TransactionId** > id) const
- const **decaf::util::Collection**< **Pointer**< **TransactionState** > > & **getTransactionStates** () const
- **Pointer**< **TransactionState** > **removeTransactionState** (**Pointer**< **TransactionId** > id)
- void **addSession** (**Pointer**< **SessionInfo** > info)
- **Pointer**< **SessionState** > **removeSession** (**Pointer**< **SessionId** > id)
- const **Pointer**< **SessionState** > **getSessionState** (**Pointer**< **SessionId** > id) const
- const **LinkedList**< **Pointer**< **DestinationInfo** > > & **getTempDesinations** () const
- const **decaf::util::Collection**< **Pointer**< **SessionState** > > & **getSessionStates** () const
- **StlMap**< **Pointer**< **ConsumerId** >, **Pointer**< **ConsumerInfo** >, **ConsumerId::COMPARATOR** > & **getRecoveringPullConsumers** ()
- void **setConnectionInterruptProcessingComplete** (bool connectionInterruptProcessingComplete)
- bool **isConnectionInterruptProcessingComplete** ()

6.175.1 Constructor & Destructor Documentation

6.175.1.1 activemq::state::ConnectionState::ConnectionState (Pointer< ConnectionInfo > *info*)

6.175.1.2 virtual activemq::state::ConnectionState::~ConnectionState () [virtual]

6.175.2 Member Function Documentation

6.175.2.1 void activemq::state::ConnectionState::addSession (Pointer< SessionInfo > *info*) [inline]

6.175.2.2 void activemq::state::ConnectionState::addTempDestination (Pointer< DestinationInfo > *info*) [inline]

6.175.2.3 void activemq::state::ConnectionState::addTransactionState (Pointer< TransactionId > *id*) [inline]

6.175.2.4 void activemq::state::ConnectionState::checkShutdown () const

6.175.2.5 const Pointer<commands::ConnectionInfo> activemq::state::ConnectionState::getInfo () const [inline]

6.175.2.6 StlMap<Pointer<ConsumerId>, Pointer<ConsumerInfo>, ConsumerId::COMPARATOR>& activemq::state::ConnectionState::getRecoveringPullConsumers () [inline]

6.175.2.7 const Pointer<SessionState> activemq::state::ConnectionState::getSessionState (Pointer< SessionId > *id*) const [inline]

6.175.2.8 const decaf::util::Collection<Pointer<SessionState> >& activemq::state::ConnectionState::getSessionStates () const [inline]

6.175.2.9 const LinkedList<Pointer<DestinationInfo> >& activemq::state::ConnectionState::getTempDesinations () const [inline]

6.175.2.10 const Pointer<TransactionState>& activemq::state::ConnectionState::getTransactionState (Pointer< TransactionId > *id*) const [inline]

References decaf::lang::Pointer< T, REFCOUNTER >::get().

6.175.2.11 const decaf::util::Collection<Pointer<TransactionState> >& activemq::state::ConnectionState::getTransactionStates () const `[inline]`

6.175.2.12 bool activemq::state::ConnectionState::isConnectionInterruptProcessingComplete () `[inline]`

6.175.2.13 Pointer<SessionState> activemq::state::ConnectionState::removeSession (Pointer< SessionId > *id*) `[inline]`

6.175.2.14 void activemq::state::ConnectionState::removeTempDestination (Pointer< ActiveMQDestination > *destination*)

6.175.2.15 Pointer<TransactionState> activemq::state::ConnectionState::removeTransactionState (Pointer< TransactionId > *id*) `[inline]`

6.175.2.16 void activemq::state::ConnectionState::reset (Pointer< ConnectionInfo > *info*)

6.175.2.17 void activemq::state::ConnectionState::setConnectionInterruptProcessingComplete (bool *connectionInterruptProcessingComplete*) `[inline]`

6.175.2.18 void activemq::state::ConnectionState::shutdown ()

6.175.2.19 std::string activemq::state::ConnectionState::toString () const

The documentation for this class was generated from the following file:

- src/main/activemq/state/**ConnectionState.h**

6.176 activemq::state::ConnectionStateTracker Class Reference

`#include <src/main/activemq/state/ConnectionStateTracker.h>`Inheritance diagram for activemq::state::ConnectionStateTracker:

Public Member Functions

- **ConnectionStateTracker** ()
- virtual ~**ConnectionStateTracker** ()
- **Pointer< Tracked > track** (**Pointer< Command >** command)
- void **trackBack** (**decaf::lang::Pointer< Command >** command)
- void **restore** (**decaf::lang::Pointer< transport::Transport >** transport)
- void **connectionInterruptProcessingComplete** (**transport::Transport** *transport, **decaf::lang::Pointer< ConnectionId >** connectionId)
- void **transportInterrupted** ()
- virtual **decaf::lang::Pointer< Command > processDestinationInfo** (**DestinationInfo** *info)
- virtual **decaf::lang::Pointer< Command > processRemoveDestination** (**DestinationInfo** *info)
- virtual **decaf::lang::Pointer< Command > processProducerInfo** (**ProducerInfo** *info)
- virtual **decaf::lang::Pointer< Command > processRemoveProducer** (**ProducerId** *id)
- virtual **decaf::lang::Pointer< Command > processConsumerInfo** (**ConsumerInfo** *info)
- virtual **decaf::lang::Pointer< Command > processRemoveConsumer** (**ConsumerId** *id)
- virtual **decaf::lang::Pointer< Command > processSessionInfo** (**SessionInfo** *info)
- virtual **decaf::lang::Pointer< Command > processRemoveSession** (**SessionId** *id)
- virtual **decaf::lang::Pointer< Command > processConnectionInfo** (**ConnectionInfo** *info)
- virtual **decaf::lang::Pointer< Command > processRemoveConnection** (**ConnectionId** *id)
- virtual **decaf::lang::Pointer< Command > processMessage** (**Message** *message)
- virtual **decaf::lang::Pointer< Command > processBeginTransaction** (**TransactionInfo** *info)
- virtual **decaf::lang::Pointer< Command > processPrepareTransaction** (**TransactionInfo** *info)
- virtual **decaf::lang::Pointer< Command > processCommitTransactionOnePhase** (**TransactionInfo** *info)
- virtual **decaf::lang::Pointer< Command > processCommitTransactionTwoPhase** (**TransactionInfo** *info)
- virtual **decaf::lang::Pointer< Command > processRollbackTransaction** (**TransactionInfo** *info)
- virtual **decaf::lang::Pointer< Command > processEndTransaction** (**TransactionInfo** *info)
- virtual **decaf::lang::Pointer< Command > processMessagePull** (**MessagePull** *pull)

- bool **isRestoreConsumers** () const
- void **setRestoreConsumers** (bool restoreConsumers)
- bool **isRestoreProducers** () const
- void **setRestoreProducers** (bool restoreProducers)
- bool **isRestoreSessions** () const
- void **setRestoreSessions** (bool restoreSessions)
- bool **isTrackTransactions** () const
- void **setTrackTransactions** (bool trackTransactions)
- bool **isRestoreTransaction** () const
- void **setRestoreTransaction** (bool restoreTransaction)
- bool **isTrackMessages** () const
- void **setTrackMessages** (bool trackMessages)
- int **getMaxMessageCacheSize** () const
- void **setMaxMessageCacheSize** (int maxMessageCacheSize)
- int **getMaxMessagePullCacheSize** () const
- void **setMaxMessagePullCacheSize** (int maxMessagePullCacheSize)
- bool **isTrackTransactionProducers** () const
- void **setTrackTransactionProducers** (bool trackTransactionProducers)

Friends

- class **RemoveTransactionAction**

6.176.1 Constructor & Destructor Documentation

6.176.1.1 activemq::state::ConnectionStateTracker::ConnectionStateTracker ()

6.176.1.2 virtual activemq::state::ConnectionStateTracker::~ConnectionStateTracker () [virtual]

6.176.2 Member Function Documentation

6.176.2.1 void activemq::state::ConnectionStateTracker::connectionInterruptProcessingComplete (transport::Transport * *transport*, decaf::lang::Pointer< ConnectionId > *connectionId*)

6.176.2.2 int activemq::state::ConnectionStateTracker::getMaxMessageCacheSize () const [inline]

6.176.2.3 int activemq::state::ConnectionStateTracker::getMaxMessagePullCacheSize () const [inline]

6.176.2.4 bool activemq::state::ConnectionStateTracker::isRestoreConsumers () const [inline]

6.176.2.5 bool activemq::state::ConnectionStateTracker::isRestoreProducers () const [inline]

6.176.2.6 bool activemq::state::ConnectionStateTracker::isRestoreSessions () const [inline]

6.176.2.7 bool activemq::state::ConnectionStateTracker::isRestoreTransaction () const [inline]

6.176.2.8 bool activemq::state::ConnectionStateTracker::isTrackMessages () const [inline]

6.176.2.9 bool activemq::state::ConnectionStateTracker::isTrackTransactionProducers () const [inline]

6.176.2.10 bool activemq::state::ConnectionStateTracker::isTrackTransactions () const [inline]

6.176.2.11 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processBeginTransaction (TransactionInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1022).

6.176.2.12 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processCommitTransactionOnePhase (TransactionInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1022).

6.176.2.13 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processCommitTransactionTwoPhase (TransactionInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1022).

6.176.2.14 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processConnectionInfo (ConnectionInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1022).

6.176.2.15 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processConsumerInfo (ConsumerInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1023).

6.176.2.16 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processDestinationInfo (DestinationInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1023).

6.176.2.17 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processEndTransaction (TransactionInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1023).

6.176.2.18 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processMessage (Message * *message*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1023).

6.176.2.19 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processMessagePull (MessagePull * *pull*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1024).

6.176.2.20 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processPrepareTransaction (TransactionInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1024).

6.176.2.21 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processProducerInfo (ProducerInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1024).

6.176.2.22 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processRemoveConnection (ConnectionId * *id*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1024).

6.176.2.23 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processRemoveConsumer (ConsumerId * *id*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1024).

6.176.2.24 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processRemoveDestination (DestinationInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1025).

6.176.2.25 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processRemoveProducer (ProducerId * *id*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1025).

6.176.2.26 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processRemoveSession (SessionId * *id*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1025).

6.176.2.27 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processRollbackTransaction (TransactionInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1025).

6.176.2.28 virtual decaf::lang::Pointer<Command> activemq::state::ConnectionStateTracker::processSessionInfo (SessionInfo * *info*) [virtual]

Implements **activemq::state::CommandVisitor** (p. 1025).

6.176.2.29 void activemq::state::ConnectionStateTracker::restore (decaf::lang::Pointer< transport::Transport > *transport*)

6.176.2.30 void activemq::state::ConnectionStateTracker::setMaxMessageCacheSize (int *maxMessageCacheSize*) [inline]

6.176.2.31 void activemq::state::ConnectionStateTracker::setMaxMessagePullCacheSize (int *maxMessagePullCacheSize*) [inline]

6.176.2.32 void activemq::state::ConnectionStateTracker::setRestoreConsumers (bool *restoreConsumers*) [inline]

6.176.2.33 void activemq::state::ConnectionStateTracker::setRestoreProducers (bool *restoreProducers*) [inline]

6.176.2.34 void activemq::state::ConnectionStateTracker::setRestoreSessions (bool *restoreSessions*) [inline]

6.176.2.35 void activemq::state::ConnectionStateTracker::setRestoreTransaction (bool *restoreTransaction*) [inline]

6.176.2.36 void activemq::state::ConnectionStateTracker::setTrackMessages (bool *trackMessages*) [inline]

6.176.2.37 void activemq::state::ConnectionStateTracker::setTrackTransactionProducers (bool *trackTransactionProducers*) [inline]

6.176.2.38 void activemq::state::ConnectionStateTracker::setTrackTransactions (bool *trackTransactions*) [inline]

6.176.2.39 Pointer<Tracked> activemq::state::ConnectionStateTracker::track (Pointer< Command > *command*)

6.176.2.40 void activemq::state::ConnectionStateTracker::trackBack (decaf::lang::Pointer< Command > *command*)

6.176.2.41 void activemq::state::ConnectionStateTracker::transportInterrupted ()

6.176.3 Friends And Related Function Documentation

6.176.3.1 friend class RemoveTransactionAction [friend]

The documentation for this class was generated from the following file:

- src/main/activemq/state/**ConnectionStateTracker.h**

6.177 decaf::util::logging::ConsoleHandler Class Reference

This **Handler** (p. 1577) publishes log records to System.err.

`#include <src/main/decaf/util/logging/ConsoleHandler.h>`Inheritance diagram for decaf::util::logging::ConsoleHandler:

Public Member Functions

- **ConsoleHandler** ()
- virtual ~**ConsoleHandler** ()
- virtual void **close** ()

  Close the current output stream.

- virtual void **publish** (const **LogRecord** &record)

  *Publish the Log Record to this **Handler** (p. 1577).*

6.177.1 Detailed Description

This **Handler** (p. 1577) publishes log records to System.err. By default the **SimpleFormatter** (p. 2744) is used to generate brief summaries.

Configuration: By default each **ConsoleHandler** (p. 1147) is initialized using the following **LogManager** (p. 1941) configuration properties. If properties are not defined (or have invalid values) then the specified default values are used.

ConsoleHandler.level specifies the default level for the **Handler** (p. 1577) (defaults to **Level.INFO** (p. 1850)). ConsoleHandler.filter specifies the name of a **Filter** (p. 1507) class to use (defaults to no **Filter** (p. 1507)). ConsoleHandler.formatter specifies the name of a **Formatter** (p. 1556) class to use (defaults to **SimpleFormatter** (p. 2744)).

Since:

1.0

6.177.2 Constructor & Destructor Documentation

6.177.2.1 decaf::util::logging::ConsoleHandler::ConsoleHandler ()

6.177.2.2 virtual decaf::util::logging::ConsoleHandler::~ConsoleHandler () `[inline, virtual]`

6.177.3 Member Function Documentation

6.177.3.1 virtual void decaf::util::logging::ConsoleHandler::close () `[virtual]`

Close the current output stream. Override the **StreamHandler** (p. 2904) close to flush the Std Err stream but doesn't close.

Exceptions:

IOException

Reimplemented from **decaf::util::logging::StreamHandler** (p. 2905).

6.177.3.2 virtual void decaf::util::logging::ConsoleHandler::publish (const LogRecord & *record*) [virtual]

Publish the Log Record to this **Handler** (p. 1577).

Parameters:

record The `LogRecord (p. 1947)` to Publish

Reimplemented from **decaf::util::logging::StreamHandler** (p. 2906).

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**ConsoleHandler.h**

6.178 decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet Class Reference

`#include <src/main/decaf/util/HashMap.h>`Inheritance diagram for decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet:

Public Member Functions

- **ConstHashMapEntrySet** (const **HashMap** *parent)
- virtual ~**ConstHashMapEntrySet** ()
- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **remove** (const **MapEntry**< K, V > &entry DECAF_UNUSED)
- virtual bool **contains** (const **MapEntry**< K, V > &entry)
- virtual **Iterator**< **MapEntry**< K, V > > * **iterator** ()
- virtual **Iterator**< **MapEntry**< K, V > > * **iterator** () const

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet

6.178.1 Constructor & Destructor Documentation

6.178.1.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::ConstHashMapEntrySet (const HashMap * *parent*) `[inline]`

6.178.1.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::~ConstHashMapEntrySet () `[inline, virtual]`

6.178.2 Member Function Documentation

6.178.2.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual void decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::clear () `[inline, virtual]`

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 144).

6.178.2.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::contains (const MapEntry< K, V > & *entry*) [inline, virtual]

References decaf::util::HashMap< K, V, HASHCODE >::getEntry(), decaf::util::MapEntry< K, V >::getKey(), decaf::util::MapEntry< K, V >::getValue(), and NULL.

6.178.2.3 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator< MapEntry<K, V> >* decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< MapEntry< K, V > >** (p. 1786).

6.178.2.4 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator< MapEntry<K, V> >* decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< MapEntry< K, V > >** (p. 1787).

6.178.2.5 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::remove (const MapEntry< K, V > &entry *DECAF_UNUSED*) [inline, virtual]

6.178.2.6 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual int decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< MapEntry< K, V > >** (p. 1009).

References decaf::util::HashMap< K, V, HASHCODE >::elementCount.

The documentation for this class was generated from the following file:

- src/main/decaf/util/**HashMap.h**

6.179 decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet Class Reference

`#include <src/main/decaf/util/HashMap.h>`Inheritance diagram for decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet:

Public Member Functions

- **ConstHashMapKeySet** (const **HashMap** *parent)
- virtual ~**ConstHashMapKeySet** ()
- virtual bool **contains** (const K &key) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

  Parameters:

  value *The value to check for presence in the collection.*

  Returns:

  true if there is at least one of the elements in the collection

  Exceptions:

  NullPointerException *if the Collection contains pointers and the Collection does not allow for NULL elements (optional check).*

  This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **remove** (const K &key DECAF_UNUSED)
- virtual **Iterator**< K > * **iterator** ()
- virtual **Iterator**< K > * **iterator** () const

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet

6.179.1 Constructor & Destructor Documentation

6.179.1.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::ConstHashMapKeySet (const HashMap * *parent*) [inline]

6.179.1.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::~ConstHashMapKeySet () [inline, virtual]

6.179.2 Member Function Documentation

6.179.2.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual void decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractCollection< K >** (p. 144).

6.179.2.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::contains (const K & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the Collection contains pointers and the Collection does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element. This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Reimplemented from **decaf::util::AbstractCollection< K >** (p. 145).

References decaf::util::HashMap< K, V, HASHCODE >::containsKey().

6.179.2.3 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator<K>* decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< K >** (p. 1786).

6.179.2.4 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator<K>* decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< K >** (p. 1787).

6.179.2.5 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::remove (const K &key *DECAF_UNUSED*) [inline, virtual]

6.179.2.6 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual int decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< K >** (p. 1009).

References decaf::util::HashMap< K, V, HASHCODE >::size().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**HashMap.h**

6.180 decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection Class Reference

`#include <src/main/decaf/util/HashMap.h>`Inheritance diagram for decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection:

Public Member Functions

- **ConstHashMapValueCollection** (const **HashMap** *parent)
- virtual ~**ConstHashMapValueCollection** ()
- virtual bool **contains** (const V &value) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

  Parameters:

  value *The value to check for presence in the collection.*

  Returns:

  true if there is at least one of the elements in the collection

  Exceptions:

  NullPointerException *if the Collection contains pointers and the Collection does not allow for NULL elements (optional check).*

  This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual **Iterator**< V > * **iterator** ()
- virtual **Iterator**< V > * **iterator** () const

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection

6.180.1 Constructor & Destructor Documentation

6.180.1.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection::ConstHashMapValueCollection (const HashMap * *parent*) [inline]

6.180.1.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection::~ConstHashMapValueCollection () [inline, virtual]

6.180.2 Member Function Documentation

6.180.2.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual void decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractCollection< V >** (p. 144).

6.180.2.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection::contains (const V & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the Collection contains pointers and the Collection does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element. This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Reimplemented from **decaf::util::AbstractCollection< V >** (p. 145).

References decaf::util::HashMap< K, V, HASHCODE >::containsValue().

6.180.2.3 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator<V>* decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< V >** (p. 1786).

6.180.2.4 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator<V>* decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< V >** (p. 1787).

6.180.2.5 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual int decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< V >** (p. 1009).

References decaf::util::HashMap< K, V, HASHCODE >::size().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**HashMap.h**

6.181 activemq::commands::ConsumerControl Class Reference

`#include <src/main/activemq/commands/ConsumerControl.h>`Inheritance diagram for activemq::commands::ConsumerControl:

Public Member Functions

- **ConsumerControl** ()
- virtual ~**ConsumerControl** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ConsumerControl** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual bool **isClose** () const
- virtual void **setClose** (bool **close**)
- virtual const **Pointer**< **ConsumerId** > & **getConsumerId** () const
- virtual **Pointer**< **ConsumerId** > & **getConsumerId** ()
- virtual void **setConsumerId** (const **Pointer**< **ConsumerId** > &**consumerId**)
- virtual int **getPrefetch** () const
- virtual void **setPrefetch** (int **prefetch**)
- virtual bool **isFlush** () const
- virtual void **setFlush** (bool **flush**)
- virtual bool **isStart** () const
- virtual void **setStart** (bool **start**)
- virtual bool **isStop** () const
- virtual void **setStop** (bool **stop**)
- virtual bool **isConsumerControl** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_CONSUMERCONTROL** = 17

Protected Attributes

- **Pointer< ActiveMQDestination > destination**
- bool **close**
- **Pointer< ConsumerId > consumerId**
- int **prefetch**
- bool **flush**
- bool **start**
- bool **stop**

6.181.1 Constructor & Destructor Documentation

6.181.1.1 activemq::commands::ConsumerControl::ConsumerControl ()

6.181.1.2 virtual activemq::commands::ConsumerControl::~ConsumerControl () [virtual]

6.181.2 Member Function Documentation

6.181.2.1 virtual ConsumerControl* activemq::commands::ConsumerControl::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.181.2.2 virtual void activemq::commands::ConsumerControl::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.181.2.3 virtual bool activemq::commands::ConsumerControl::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.181.2.4 virtual Pointer<ConsumerId>& activemq::commands::ConsumerControl::getConsumerId () [virtual]

6.181.2.5 virtual const Pointer<ConsumerId>& activemq::commands::ConsumerControl::getConsumerId () const [virtual]

6.181.2.6 virtual unsigned char activemq::commands::ConsumerControl::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.181.2.7 virtual Pointer<ActiveMQDestination>& activemq::commands::ConsumerControl::getDestination () [virtual]

6.181.2.8 virtual const Pointer<ActiveMQDestination>& activemq::commands::ConsumerControl::getDestination () const [virtual]

6.181.2.9 virtual int activemq::commands::ConsumerControl::getPrefetch () const [virtual]

6.181.2.10 virtual bool activemq::commands::ConsumerControl::isClose () const [virtual]

6.181.2.11 virtual bool activemq::commands::ConsumerControl::isConsumerControl () const [inline, virtual]

Returns:

an answer of true to the **isConsumerControl()** (p. 1160) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 631).

6.181.2.12 virtual bool activemq::commands::ConsumerControl::isFlush () const [virtual]

6.181.2.13 virtual bool activemq::commands::ConsumerControl::isStart () const [virtual]

6.181.2.14 virtual bool activemq::commands::ConsumerControl::isStop () const [virtual]

6.181.2.15 virtual void activemq::commands::ConsumerControl::setClose (bool *close*) [virtual]

6.181.2.16 virtual void activemq::commands::ConsumerControl::setConsumerId (const Pointer< ConsumerId > & *consumerId*) [virtual]

6.181.2.17 virtual void activemq::commands::ConsumerControl::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.181.2.18 virtual void activemq::commands::ConsumerControl::setFlush (bool *flush*) [virtual]

6.181.2.19 virtual void activemq::commands::ConsumerControl::setPrefetch (int *prefetch*) [virtual]

6.181.2.20 virtual void activemq::commands::ConsumerControl::setStart (bool *start*) [virtual]

6.181.2.21 virtual void activemq::commands::ConsumerControl::setStop (bool *stop*) [virtual]

6.181.2.22 virtual std::string activemq::commands::ConsumerControl::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.181.2.23 virtual Pointer<Command> activemq::commands::ConsumerControl::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.181.3 Field Documentation

6.181.3.1 bool activemq::commands::ConsumerControl::close [protected]

6.181.3.2 Pointer<ConsumerId> activemq::commands::ConsumerControl::consumerId [protected]

6.181.3.3 Pointer<ActiveMQDestination> activemq::commands::ConsumerControl::destination [protected]

6.181.3.4 bool activemq::commands::ConsumerControl::flush [protected]

6.181.3.5 const unsigned char activemq::commands::ConsumerControl::ID_CONSUMERCONTROL = 17 [static]

6.181.3.6 int activemq::commands::ConsumerControl::prefetch [protected]

6.181.3.7 bool activemq::commands::ConsumerControl::start [protected]

6.181.3.8 bool activemq::commands::ConsumerControl::stop [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ConsumerControl.h**

6.182 activemq::wireformat::openwire::marshal::generated::ConsumerCo Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ConsumerControlMarshaller** (p. 1163).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ConsumerControlMarshaller.h>`In diagram for activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller:

Public Member Functions

- **ConsumerControlMarshaller** ()
- virtual ~**ConsumerControlMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.182.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ConsumerControlMarshaller** (p. 1163). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.182.2 Constructor & Destructor Documentation

6.182.2.1 activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller::Consun () [inline]

6.182.2.2 virtual activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller::~Consu () [inline, virtual]

6.182.3 Member Function Documentation

6.182.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller::createOb () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.182.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller::getDataS () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.182.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller::looseMar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.182.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller::looseUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.182.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.182.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.182.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller::tightUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ConsumerControlMarshaller.h**

6.183 activemq::commands::ConsumerId Class Reference

`#include <src/main/activemq/commands/ConsumerId.h>`Inheritance diagram for activemq::commands::ConsumerId:

Public Types

- typedef **decaf::lang::PointerComparator< ConsumerId > COMPARATOR**

Public Member Functions

- **ConsumerId** ()
- **ConsumerId** (const **ConsumerId** &other)
- **ConsumerId** (const **SessionId** &**sessionId**, long long consumerIdd)
- virtual ~**ConsumerId** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ConsumerId** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- const **Pointer< SessionId >** & **getParentId** () const
- virtual const std::string & **getConnectionId** () const
- virtual std::string & **getConnectionId** ()
- virtual void **setConnectionId** (const std::string &**connectionId**)
- virtual long long **getSessionId** () const
- virtual void **setSessionId** (long long **sessionId**)
- virtual long long **getValue** () const
- virtual void **setValue** (long long **value**)
- virtual int **compareTo** (const **ConsumerId** &**value**) const
- virtual bool **equals** (const **ConsumerId** &**value**) const
- virtual bool **operator==** (const **ConsumerId** &**value**) const
- virtual bool **operator<** (const **ConsumerId** &**value**) const
- **ConsumerId** & **operator=** (const **ConsumerId** &other)
- int **getHashCode** () const

Static Public Attributes

- static const unsigned char **ID_CONSUMERID** = 122

Protected Attributes

- std::string **connectionId**
- long long **sessionId**
- long long **value**

6.183.1 Member Typedef Documentation

6.183.1.1 typedef decaf::lang::PointerComparator<ConsumerId> activemq::commands::ConsumerId::COMPARATOR

6.183.2 Constructor & Destructor Documentation

6.183.2.1 activemq::commands::ConsumerId::ConsumerId ()

6.183.2.2 activemq::commands::ConsumerId::ConsumerId (const ConsumerId & *other*)

6.183.2.3 activemq::commands::ConsumerId::ConsumerId (const SessionId & *sessionId*, long long *consumerIdd*)

6.183.2.4 virtual activemq::commands::ConsumerId::~ConsumerId () [virtual]

6.183.3 Member Function Documentation

6.183.3.1 virtual ConsumerId* activemq::commands::ConsumerId::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.183.3.2 virtual int activemq::commands::ConsumerId::compareTo (const ConsumerId & *value*) const [virtual]

6.183.3.3 virtual void activemq::commands::ConsumerId::copyDataStructure (const DataStructure * *src*) [virtual]

6.183.3.4 virtual bool activemq::commands::ConsumerId::equals (const ConsumerId & *value*) const [virtual]

6.183.3.5 virtual bool activemq::commands::ConsumerId::equals (const DataStructure * *value*) const [virtual]

6.183.3.6 virtual std::string& activemq::commands::ConsumerId::getConnectionId () [virtual]

6.183.3.7 virtual const std::string& activemq::commands::ConsumerId::getConnectionId () const [virtual]

6.183.3.8 virtual unsigned char activemq::commands::ConsumerId::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.183.3.9 int activemq::commands::ConsumerId::getHashCode () const

6.183.3.10 const Pointer<SessionId>& activemq::commands::ConsumerId::getParentId () const

6.183.3.11 virtual long long activemq::commands::ConsumerId::getSessionId () const [virtual]

6.183.3.12 virtual long long activemq::commands::ConsumerId::getValue () const [virtual]

6.183.3.13 virtual bool activemq::commands::ConsumerId::operator< (const ConsumerId & *value*) const [virtual]

6.183.3.14 ConsumerId& activemq::commands::ConsumerId::operator= (const ConsumerId & *other*)

6.183.3.15 virtual bool activemq::commands::ConsumerId::operator== (const ConsumerId & *value*) const [virtual]

6.183.3.16 virtual void activemq::commands::ConsumerId::setConnectionId (const std::string & *connectionId*) [virtual]

6.183.3.17 virtual void activemq::commands::ConsumerId::setSessionId (long long *sessionId*) [virtual]

6.183.3.18 virtual void activemq::commands::ConsumerId::setValue (long long *value*) [virtual]

6.183.3.19 virtual std::string activemq::commands::ConsumerId::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.183.4 Field Documentation

6.183.4.1 std::string activemq::commands::ConsumerId::connectionId [protected]

6.183.4.2 const unsigned char activemq::commands::ConsumerId::ID_CONSUMERID = 122 [static]

6.183.4.3 long long activemq::commands::ConsumerId::sessionId [protected]

6.183.4.4 long long activemq::commands::ConsumerId::value [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ConsumerId.h**

6.184 activemq::wireformat::openwire::marshal::generated::ConsumerId Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ConsumerIdMarshaller** (p. 1172).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ConsumerIdMarshaller.h>`Inherita
diagram for activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller:

Public Member Functions

- **ConsumerIdMarshaller** ()
- virtual ~**ConsumerIdMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.184.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ConsumerIdMarshaller** (p. 1172). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.184.2 Constructor & Destructor Documentation

6.184.2.1 activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller::ConsumerId() [inline]

6.184.2.2 virtual activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller::~ConsumerI() [inline, virtual]

6.184.3 Member Function Documentation

6.184.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller::createObject() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.184.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller::getDataStructu() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.184.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller::looseMarshal(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.184.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller::looseUnmarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.184.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.184.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.184.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller::tightUnmarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ConsumerIdMarshaller.h**

6.185 activemq::commands::ConsumerInfo Class Reference

`#include <src/main/activemq/commands/ConsumerInfo.h>`Inheritance diagram for activemq::commands::ConsumerInfo:

Public Member Functions

- **ConsumerInfo** ()
- virtual ~**ConsumerInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ConsumerInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- **Pointer**< **RemoveInfo** > **createRemoveCommand** () const
- int **getCurrentPrefetchSize** () const
- void **setCurrentPrefetchSize** (int currentPrefetchSize)
- virtual const **Pointer**< **ConsumerId** > & **getConsumerId** () const
- virtual **Pointer**< **ConsumerId** > & **getConsumerId** ()
- virtual void **setConsumerId** (const **Pointer**< **ConsumerId** > &**consumerId**)
- virtual bool **isBrowser** () const
- virtual void **setBrowser** (bool **browser**)
- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual int **getPrefetchSize** () const
- virtual void **setPrefetchSize** (int **prefetchSize**)
- virtual int **getMaximumPendingMessageLimit** () const
- virtual void **setMaximumPendingMessageLimit** (int **maximumPendingMessageLimit**)
- virtual bool **isDispatchAsync** () const
- virtual void **setDispatchAsync** (bool **dispatchAsync**)
- virtual const std::string & **getSelector** () const
- virtual std::string & **getSelector** ()
- virtual void **setSelector** (const std::string &**selector**)
- virtual const std::string & **getSubscriptionName** () const
- virtual std::string & **getSubscriptionName** ()
- virtual void **setSubscriptionName** (const std::string &**subscriptionName**)

- virtual bool **isNoLocal** () const
- virtual void **setNoLocal** (bool **noLocal**)
- virtual bool **isExclusive** () const
- virtual void **setExclusive** (bool **exclusive**)
- virtual bool **isRetroactive** () const
- virtual void **setRetroactive** (bool **retroactive**)
- virtual unsigned char **getPriority** () const
- virtual void **setPriority** (unsigned char **priority**)
- virtual const std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** () const
- virtual std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** ()
- virtual void **setBrokerPath** (const std::vector< **decaf::lang::Pointer**< **BrokerId** > > &**brokerPath**)
- virtual const **Pointer**< **BooleanExpression** > & **getAdditionalPredicate** () const
- virtual **Pointer**< **BooleanExpression** > & **getAdditionalPredicate** ()
- virtual void **setAdditionalPredicate** (const **Pointer**< **BooleanExpression** > &**additionalPredicate**)
- virtual bool **isNetworkSubscription** () const
- virtual void **setNetworkSubscription** (bool **networkSubscription**)
- virtual bool **isOptimizedAcknowledge** () const
- virtual void **setOptimizedAcknowledge** (bool **optimizedAcknowledge**)
- virtual bool **isNoRangeAcks** () const
- virtual void **setNoRangeAcks** (bool **noRangeAcks**)
- virtual const std::vector< **decaf::lang::Pointer**< **ConsumerId** > > & **getNetworkConsumerPath** () const
- virtual std::vector< **decaf::lang::Pointer**< **ConsumerId** > > & **getNetworkConsumerPath** ()
- virtual void **setNetworkConsumerPath** (const std::vector< **decaf::lang::Pointer**< **ConsumerId** > > &**networkConsumerPath**)
- virtual bool **isConsumerInfo** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_CONSUMERINFO** = 5

Protected Attributes

- **Pointer**< **ConsumerId** > **consumerId**
- bool **browser**
- **Pointer**< **ActiveMQDestination** > **destination**
- int **prefetchSize**
- int **maximumPendingMessageLimit**
- bool **dispatchAsync**
- std::string **selector**
- std::string **subscriptionName**
- bool **noLocal**

- bool **exclusive**
- bool **retroactive**
- unsigned char **priority**
- std::vector< **decaf::lang::Pointer< BrokerId > > brokerPath**
- **Pointer< BooleanExpression > additionalPredicate**
- bool **networkSubscription**
- bool **optimizedAcknowledge**
- bool **noRangeAcks**
- std::vector< **decaf::lang::Pointer< ConsumerId > > networkConsumerPath**

6.185.1 Constructor & Destructor Documentation

6.185.1.1 activemq::commands::ConsumerInfo::ConsumerInfo ()

6.185.1.2 virtual activemq::commands::ConsumerInfo::~ConsumerInfo () [virtual]

6.185.2 Member Function Documentation

6.185.2.1 virtual ConsumerInfo* activemq::commands::ConsumerInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.185.2.2 virtual void activemq::commands::ConsumerInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.185.2.3 Pointer<RemoveInfo> activemq::commands::ConsumerInfo::createRemoveCommand () const

6.185.2.4 virtual bool activemq::commands::ConsumerInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.185.2.5 virtual Pointer<BooleanExpression>& activemq::commands::ConsumerInfo::getAdditionalPredicate () [virtual]

6.185.2.6 virtual const Pointer<BooleanExpression>& activemq::commands::ConsumerInfo::getAdditionalPredicate () const [virtual]

6.185.2.7 virtual std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::ConsumerInfo::getBrokerPath () [virtual]

6.185.2.8 virtual const std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::ConsumerInfo::getBrokerPath () const [virtual]

6.185.2.9 virtual Pointer<ConsumerId>& activemq::commands::ConsumerInfo::getConsumerId () [virtual]

6.185.2.10 virtual const Pointer<ConsumerId>& activemq::commands::ConsumerInfo::getConsumerId () const [virtual]

6.185.2.11 int activemq::commands::ConsumerInfo::getCurrentPrefetchSize () const [inline]

6.185.2.12 virtual unsigned char activemq::commands::ConsumerInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.185.2.13 virtual Pointer<ActiveMQDestination>& activemq::commands::ConsumerInfo::getDestination () [virtual]

6.185.2.14 virtual const Pointer<ActiveMQDestination>& activemq::commands::ConsumerInfo::getDestination () const [virtual]

6.185.2.15 virtual int activemq::commands::ConsumerInfo::getMaximumPendingMessageLimit () const [virtual]

6.185.2.16 virtual std::vector< decaf::lang::Pointer<ConsumerId> >& activemq::commands::ConsumerInfo::getNetworkConsumerPath () [virtual]

6.185.2.17 virtual const std::vector< decaf::lang::Pointer<ConsumerId> >& activemq::commands::ConsumerInfo::getNetworkConsumerPath () const [virtual]

6.185.2.18 virtual int activemq::commands::ConsumerInfo::getPrefetchSize () const [virtual]

6.185.2.19 virtual unsigned char activemq::commands::ConsumerInfo::getPriority () const [virtual]

6.185.2.20 virtual std::string& activemq::commands::ConsumerInfo::getSelector () [virtual]

6.185.2.21 virtual const std::string& activemq::commands::ConsumerInfo::getSelector () const [virtual]

6.185.2.22 virtual std::string& activemq::commands::ConsumerInfo::getSubscriptionName () [virtual]

6.185.2.23 virtual const std::string& activemq::commands::ConsumerInfo::getSubscriptionName () const [virtual]

6.185.2.24 virtual bool activemq::commands::ConsumerInfo::isBrowser () const [virtual]

6.185.2.25 virtual bool activemq::commands::ConsumerInfo::isConsumerInfo () const [inline, virtual]

Returns:

an answer of true to the **isConsumerInfo()** (p. 1180) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 631).

6.185.2.26 virtual bool activemq::commands::ConsumerInfo::isDispatchAsync () const [virtual]

6.185.2.27 virtual bool activemq::commands::ConsumerInfo::isExclusive () const [virtual]

6.185.2.28 virtual bool activemq::commands::ConsumerInfo::isNetworkSubscription () const [virtual]

6.185.2.29 virtual bool activemq::commands::ConsumerInfo::isNoLocal () const [virtual]

6.185.2.30 virtual bool activemq::commands::ConsumerInfo::isNoRangeAcks () const [virtual]

6.185.2.31 virtual bool activemq::commands::ConsumerInfo::isOptimizedAcknowledge () const [virtual]

6.185.2.32 virtual bool activemq::commands::ConsumerInfo::isRetroactive () const [virtual]

6.185.2.33 virtual void activemq::commands::ConsumerInfo::setAdditionalPredicate (const Pointer< BooleanExpression > & *additionalPredicate*) [virtual]

6.185.2.34 virtual void activemq::commands::ConsumerInfo::setBrokerPath (const std::vector< decaf::lang::Pointer< BrokerId > > & *brokerPath*) [virtual]

6.185.2.35 virtual void activemq::commands::ConsumerInfo::setBrowser (bool *browser*) [virtual]

6.185.2.36 virtual void activemq::commands::ConsumerInfo::setConsumerId (const Pointer< ConsumerId > & *consumerId*) [virtual]

6.185.2.37 void activemq::commands::ConsumerInfo::setCurrentPrefetchSize (int *currentPrefetchSize*) [inline]

6.185.2.38 virtual void activemq::commands::ConsumerInfo::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.185.2.39 virtual void activemq::commands::ConsumerInfo::setDispatchAsync (bool *dispatchAsync*) [virtual]

6.185.2.40 virtual void activemq::commands::ConsumerInfo::setExclusive (bool *exclusive*) [virtual]

6.185.2.41 virtual void activemq::commands::ConsumerInfo::setMaximumPendingMessageLimit (int *maximumPendingMessageLimit*) [virtual]

6.185.2.42 virtual void activemq::commands::ConsumerInfo::setNetworkConsumerPath (const std::vector< decaf::lang::Pointer< ConsumerId > > & *networkConsumerPath*) [virtual]

6.185.2.43 virtual void activemq::commands::ConsumerInfo::setNetworkSubscription (bool *networkSubscription*) [virtual]

6.185.2.44 virtual void activemq::commands::ConsumerInfo::setNoLocal (bool *noLocal*) [virtual]

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.185.2.53 virtual Pointer<Command> activemq::commands::ConsumerInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.185.3 Field Documentation

6.185.3.1 Pointer<BooleanExpression> activemq::commands::ConsumerInfo::additionalPredicate [protected]

6.185.3.2 std::vector< decaf::lang::Pointer<BrokerId> > activemq::commands::ConsumerInfo::brokerPath [protected]

6.185.3.3 bool activemq::commands::ConsumerInfo::browser [protected]

6.185.3.4 Pointer<ConsumerId> activemq::commands::ConsumerInfo::consumerId [protected]

6.185.3.5 Pointer<ActiveMQDestination> activemq::commands::ConsumerInfo::destination [protected]

6.185.3.6 bool activemq::commands::ConsumerInfo::dispatchAsync [protected]

6.185.3.7 bool activemq::commands::ConsumerInfo::exclusive [protected]

6.185.3.8 const unsigned char activemq::commands::ConsumerInfo::ID_CONSUMERINFO = 5 [static]

6.185.3.9 int activemq::commands::ConsumerInfo::maximumPendingMessageLimit [protected]

6.185.3.10 std::vector< decaf::lang::Pointer<ConsumerId> > activemq::commands::ConsumerInfo::networkConsumerPath [protected]

6.185.3.11 bool activemq::commands::ConsumerInfo::networkSubscription [protected]

6.185.3.12 bool activemq::commands::ConsumerInfo::noLocal [protected]

6.185.3.13 bool activemq::commands::ConsumerInfo::noRangeAcks [protected]

6.185.3.14 bool activemq::commands::ConsumerInfo::optimizedAcknowledge [protected]

6.185.3.15 int activemq::commands::ConsumerInfo::prefetchSize [protected]

6.185.3.16 unsigned char activemq::commands::ConsumerInfo::priority [protected]

6.185.3.17 bool activemq::commands::ConsumerInfo::retroactive [protected]

6.185.3.18 std::string activemq::commands::ConsumerInfo::selector [protected]

6.185.3.19 std::string activemq::commands::ConsumerInfo::subscriptionName [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ConsumerInfo.h**

6.186 activemq::wireformat::openwire::marshal::generated::ConsumerInf Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ConsumerInfoMarshaller** (p. 1185).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ConsumerInfoMarshaller.h>`Inheri
diagram for activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller:

Public Member Functions

- **ConsumerInfoMarshaller** ()
- virtual ~**ConsumerInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.186.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ConsumerInfoMarshaller** (p. 1185). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.186.2 Constructor & Destructor Documentation

6.186.2.1 activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller::ConsumerI () [inline]

6.186.2.2 virtual activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller::~Consume () [inline, virtual]

6.186.3 Member Function Documentation

6.186.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.186.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller::getDataStruc () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.186.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.186.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller::looseUnmars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.186.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.186.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.186.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller::tightUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ConsumerInfoMarshaller.h**

6.187 activemq::state::ConsumerState Class Reference

`#include <src/main/activemq/state/ConsumerState.h>`

Public Member Functions

- **ConsumerState** (**Pointer**< **ConsumerInfo** > info)
- virtual ~**ConsumerState** ()
- std::string **toString** () const
- const **Pointer**< **ConsumerInfo** > **getInfo** () const

6.187.1 Constructor & Destructor Documentation

6.187.1.1 activemq::state::ConsumerState::ConsumerState (Pointer< ConsumerInfo > *info*)

6.187.1.2 virtual activemq::state::ConsumerState::~ConsumerState () [virtual]

6.187.2 Member Function Documentation

6.187.2.1 const Pointer<ConsumerInfo> activemq::state::ConsumerState::getInfo () const [inline]

6.187.2.2 std::string activemq::state::ConsumerState::toString () const

The documentation for this class was generated from the following file:

- src/main/activemq/state/**ConsumerState.h**

6.188 activemq::commands::ControlCommand Class Reference

`#include <src/main/activemq/commands/ControlCommand.h>`Inheritance diagram for activemq::commands::ControlCommand:

Public Member Functions

- **ControlCommand** ()
- virtual ~**ControlCommand** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ControlCommand** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const std::string & **getCommand** () const
- virtual std::string & **getCommand** ()
- virtual void **setCommand** (const std::string &**command**)
- virtual bool **isControlCommand** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_CONTROLCOMMAND** = 14

Protected Attributes

- std::string **command**

6.188.1 Constructor & Destructor Documentation

6.188.1.1 activemq::commands::ControlCommand::ControlCommand ()

6.188.1.2 virtual activemq::commands::ControlCommand::~ControlCommand () [virtual]

6.188.2 Member Function Documentation

6.188.2.1 virtual ControlCommand* activemq::commands::ControlCommand::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.188.2.2 virtual void activemq::commands::ControlCommand::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.188.2.3 virtual bool activemq::commands::ControlCommand::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.188.2.4 virtual std::string& activemq::commands::ControlCommand::getCommand () [virtual]

6.188.2.5 virtual const std::string& activemq::commands::ControlCommand::getCommand () const [virtual]

6.188.2.6 virtual unsigned char activemq::commands::ControlCommand::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.188.2.7 virtual bool activemq::commands::ControlCommand::isControlCommand () const [inline, virtual]

Returns:

an answer of true to the **isControlCommand()** (p. 1192) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 631).

6.188.2.8 virtual void activemq::commands::ControlCommand::setCommand (const std::string & *command*) [virtual]

6.188.2.9 virtual std::string activemq::commands::ControlCommand::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.188.2.10 virtual Pointer<Command> activemq::commands::ControlCommand::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.188.3 Field Documentation

6.188.3.1 std::string activemq::commands::ControlCommand::command [protected]

6.188.3.2 const unsigned char activemq::commands::ControlCommand::ID_CONTROLCOMMAND = 14 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ControlCommand.h**

6.189 activemq::wireformat::openwire::marshal::generated::ControlComm Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ControlCommandMarshaller** (p. 1193).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ControlCommandMarshaller.h>`Inh
diagram for activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller:

Public Member Functions

- **ControlCommandMarshaller** ()
- virtual ~**ControlCommandMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.189.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ControlCommandMarshaller** (p. 1193). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.189.2 Constructor & Destructor Documentation

6.189.2.1 activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller::Contro () [inline]

6.189.2.2 virtual activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller::~Contr () [inline, virtual]

6.189.3 Member Function Documentation

6.189.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller::createOb () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.189.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller::getDataS () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.189.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller::looseMar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.189.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller::looseUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.189.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller::tightMar (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.189.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller::tightMar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.189.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller::tightUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ControlCommandMarshaller.h**

6.190 decaf::util::concurrent::CopyOnWriteArrayList< E > Class Template Reference

`#include <src/main/decaf/util/concurrent/CopyOnWriteArrayList.h>`Inheritance diagram for decaf::util::concurrent::CopyOnWriteArrayList< E >:

Data Structures

- struct **Array**
- class **ArrayListIterator**

Public Member Functions

- **CopyOnWriteArrayList** ()
- **CopyOnWriteArrayList** (const **Collection**< E > &collection)
- **CopyOnWriteArrayList** (const **CopyOnWriteArrayList**< E > &collection)
- **CopyOnWriteArrayList** (const E *array, int size)
- virtual ~**CopyOnWriteArrayList** ()
- **CopyOnWriteArrayList**< E > & **operator**= (const **CopyOnWriteArrayList**< E > &list)
- **CopyOnWriteArrayList**< E > & **operator**= (const **Collection**< E > &list)
- virtual void **copy** (const **Collection**< E > &collection)
- virtual bool **add** (const E &value)

  Returns true if this collection changed as a result of the call.

- virtual bool **addAll** (const **Collection**< E > &collection)
- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **contains** (const E &value) const

  Returns true if this collection contains the specified element.

- virtual bool **containsAll** (const **Collection**< E > &collection) const
- virtual bool **equals** (const **Collection**< E > &collection) const
- virtual bool **isEmpty** () const
- virtual bool **remove** (const E &value)

  Removes a single instance of the specified element from the collection.

- virtual bool **removeAll** (const **Collection**< E > &collection)
- virtual bool **retainAll** (const **Collection**< E > &collection)
- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual std::vector< E > **toArray** () const

  Returns an array containing all of the elements in this collection.

- virtual **decaf::util::Iterator**< E > * **iterator** ()

- virtual **decaf::util::Iterator**< E > * **iterator** () const
- virtual **ListIterator**< E > * **listIterator** ()
- virtual **ListIterator**< E > * **listIterator** () const
- virtual **ListIterator**< E > * **listIterator** (int index)
- virtual **ListIterator**< E > * **listIterator** (int index) const
- virtual int **indexOf** (const E &value) const

  Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual int **lastIndexOf** (const E &value) const

  Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual E **get** (int index) const

  Gets the element contained at position passed.

- virtual E **set** (int index, const E &element)

  Replaces the element at the specified position in this list with the specified element.

- virtual void **add** (int index, const E &element)

  Inserts the specified element at the specified position in this list.

- virtual bool **addAll** (int index, const **Collection**< E > &collection)

  Inserts all of the elements in the specified collection into this list at the specified position (optional operation).

- virtual E **removeAt** (int index)

  Removes the element at the specified position in this list.

- virtual std::string **toString** () const
- bool **addIfAbsent** (const E &value)

  *Adds the given value to the end of this **List** (p. 1889) if it is not already contained in this **List** (p. 1889).*

- int **addAllAbsent** (const **Collection**< E > &collection)

  *Every element in the given collection that is not already contained in this **Collection** (p. 1000) is added to the end of this collection.*

- int **lastIndexOf** (const E &value, int index)

  *Searches backwards through the **List** (p. 1889) for the given element starting at the index specified.*

- int **indexOf** (const E &value, int index) const

  *Searches the **List** (p. 1889) starting from the specified index and returns the index of the first item in the list that is equal to the given value.*

- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

*Attempts to **Lock** (p. 1911) the object, if the lock is already held by another thread than this method returns false.*

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

template<typename E> class decaf::util::concurrent::CopyOnWriteArrayList< E >

6.190.1 Constructor & Destructor Documentation

6.190.1.1 template<typename E> decaf::util::concurrent::CopyOnWriteArrayList< E >::CopyOnWriteArrayList () [inline]

References decaf::util::concurrent::locks::Lock::newCondition(), decaf::lang::Pointer< T, REFCOUNTER >::reset(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.1.2 template<typename E> decaf::util::concurrent::CopyOnWriteArrayList< E >::CopyOnWriteArrayList (const Collection< E > & *collection*) [inline]

References decaf::util::concurrent::locks::Lock::newCondition(), decaf::lang::Pointer< T, REFCOUNTER >::reset(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.1.3 template<typename E> decaf::util::concurrent::CopyOnWriteArrayList< E >::CopyOnWriteArrayList (const CopyOnWriteArrayList< E > & *collection*) [inline]

References decaf::util::concurrent::locks::Lock::newCondition(), decaf::lang::Pointer< T, REFCOUNTER >::reset(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.1.4 template<typename E> decaf::util::concurrent::CopyOnWriteArrayList< E >::CopyOnWriteArrayList (const E * *array*, int *size*) [inline]

References decaf::util::concurrent::locks::Lock::newCondition(), decaf::lang::Pointer< T, REFCOUNTER >::reset(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.1.5 template<typename E> virtual decaf::util::concurrent::CopyOnWriteArrayList< E >::~CopyOnWriteArrayList () [inline, virtual]

References NULL, and decaf::lang::Pointer< T, REFCOUNTER >::reset().

6.190.2 Member Function Documentation

6.190.2.1 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::add (int *index*, const E & *element*) [inline, virtual]

Inserts the specified element at the specified position in this list. Shifts the element currently at that position (if any) and any subsequent elements to the right (adds one to their indices).

Parameters:

index The index at which the specified element is to be inserted.

element The element to be inserted in this **List** (p. 1889).

Exceptions:

IndexOutOfBoundsException if the index is greater than size of the **List** (p. 1889).

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::List< E >** (p. 1890).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.2 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::add (const E & *value*) [inline, virtual]

Returns true if this collection changed as a result of the call. (Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::Collection< E >** (p. 1001).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.3 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll (int *index*, const Collection< E > & *source*) [inline, virtual]

Inserts all of the elements in the specified collection into this list at the specified position (optional operation). Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

Parameters:

index The index at which to insert the first element from the specified collection

source The **Collection** (p. 1000) containing elements to be added to this list

Returns:

true if this list changed as a result of the call

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::List< E >** (p. 1891).

References decaf::lang::System::arraycopy(), decaf::lang::Iterable< E >::iterator(), decaf::util::concurrent::locks::Lock::lock(), decaf::util::Collection< E >::size(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.4 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll (const Collection< E > & *collection*) [inline, virtual]

References decaf::lang::Iterable< E >::iterator(), decaf::util::concurrent::locks::Lock::lock(), decaf::util::Collection< E >::size(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.5 template<typename E> int decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent (const Collection< E > & *collection*) [inline]

Every element in the given collection that is not already contained in this **Collection** (p. 1000) is added to the end of this collection. The order that the elements are added is ditacted by the order that the collection's iterator returns them.

Parameters:

collection The collection whose elements are to be added if not already in this **List** (p. 1889).

Returns:

the number of elements that are added to this **List** (p. 1889).

References decaf::lang::System::arraycopy(), decaf::util::concurrent::CopyOnWriteArrayList< E >::indexOf(), decaf::lang::Iterable< E >::iterator(), decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::util::Collection< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.6 template<typename E> bool decaf::util::concurrent::CopyOnWriteArrayList< E >::addIfAbsent (const E & *value*) [inline]

Adds the given value to the end of this **List** (p. 1889) if it is not already contained in this **List** (p. 1889).

Parameters:

value The element to be added if not already contained in this **List** (p. 1889).

Returns:

true if the element is added to this **List** (p. 1889).

References decaf::util::concurrent::CopyOnWriteArrayList< E >::indexOf(), decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.7 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). This collection will be empty after this method returns unless it throws an exception.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

Implements **decaf::util::Collection< E >** (p. 1003).

References decaf::util::concurrent::locks::Lock::lock(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::copy(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::operator=().

6.190.2.8 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::contains (const E & *value*) const [inline, virtual]

Returns true if this collection contains the specified element. More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).

Implements **decaf::util::Collection< E >** (p. 1004).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::containsAll().

6.190.2.9 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::containsAll (const Collection< E > & *collection*) const [inline, virtual]

References decaf::util::concurrent::CopyOnWriteArrayList< E >::contains(), and decaf::lang::Iterable< E >::iterator().

6.190.2.10 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::copy (const Collection< E > & *collection*) [inline, virtual]

References decaf::util::concurrent::CopyOnWriteArrayList< E >::clear(), decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.11 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::equals (const Collection< E > & *collection*) const [inline, virtual]

References decaf::lang::Iterable< E >::iterator(), decaf::util::concurrent::CopyOnWriteArrayList< E >::iterator(), NULL, decaf::util::Collection< E >::size(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::size().

6.190.2.12 template<typename E> virtual E decaf::util::concurrent::CopyOnWriteArrayList< E >::get (int *index*) const [inline, virtual]

Gets the element contained at position passed.

Parameters:

index The position to get.

Returns:

value at index specified.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

Implements **decaf::util::List< E >** (p. 1892).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.13 template<typename E> int decaf::util::concurrent::CopyOnWriteArrayList< E >::indexOf (const E & *value*, int *index*) const [inline]

Searches the **List** (p. 1889) starting from the specified index and returns the index of the first item in the list that is equal to the given value.

Parameters:

value The value to search for in the **List** (p. 1889).

index The index in the **List** (p. 1889) to begin the search from.

Returns:

the index in the **List** (p. 1889) that matches the given element or -1 if not found.

Exceptions:

IndexOutOfBoundsException if the given index is negative.

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.14 template<typename E> virtual int decaf::util::concurrent::CopyOnWriteArrayList< E >::indexOf (const E & *value*) const [inline, virtual]

Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the lowest index i such that get(i) == value, or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the first occurrence of the specified element in this list,

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implements **decaf::util::List< E >** (p. 1893).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addIfAbsent(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::remove().

6.190.2.15 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::isEmpty () const [inline, virtual]

Returns:

true if this collection contains no elements.

Implements **decaf::util::Collection< E >** (p. 1006).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.16 template<typename E> virtual decaf::util::Iterator<E>* decaf::util::concurrent::CopyOnWriteArrayList< E >::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< E >** (p. 1786).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.17 template<typename E> virtual decaf::util::Iterator<E>* decaf::util::concurrent::CopyOnWriteArrayList< E >::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< E >** (p. 1787).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::equals().

6.190.2.18 template<typename E> int decaf::util::concurrent::CopyOnWriteArrayList< E >::lastIndexOf (const E & *value*, int *index*) [inline]

Searches backwards through the **List** (p. 1889) for the given element starting at the index specified.

Parameters:

value The value to search for in the **List** (p. 1889).

index The index in the list to begin the search from.

Returns:

the index in the list that matches the value given, or -1 if not found.

Exceptions:

IndexOutOfBoundsException if the given index is greater than or equal to the **List** (p. 1889) size.

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.19 template<typename E> virtual int decaf::util::concurrent::CopyOnWriteArrayList< E >::lastIndexOf (const E & *value*) const [inline, virtual]

Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the highest index i such that get(i) == value or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the last occurrence of the specified element in this list.

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implements **decaf::util::List< E >** (p. 1894).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.20 template<typename E> virtual ListIterator<E>* decaf::util::concurrent::CopyOnWriteArrayList< E >::listIterator (int index) const [inline, virtual]

Implements **decaf::util::List< E >** (p. 1894).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.21 template<typename E> virtual ListIterator<E>* decaf::util::concurrent::CopyOnWriteArrayList< E >::listIterator (int *index*) [inline, virtual]

Parameters:

index index of first element to be returned from the list iterator (by a call to the next method).

Returns:

a list iterator of the elements in this list (in proper sequence), starting at the specified position in this list. The specified index indicates the first element that would be returned by an initial call to next. An initial call to previous would return the element with the specified index minus one.

Exceptions:

IndexOutOfBoundsException if the index is out of range (index < 0 || index > **size()** (p. 1211))

Implements **decaf::util::List< E >** (p. 1895).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.22 template<typename E> virtual ListIterator<E>* decaf::util::concurrent::CopyOnWriteArrayList< E >::listIterator () const [inline, virtual]

Implements **decaf::util::List< E >** (p. 1896).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.23 template<typename E> virtual ListIterator<E>* decaf::util::concurrent::CopyOnWriteArrayList< E >::listIterator () [inline, virtual]

Returns:

a list iterator over the elements in this list (in proper sequence).

Implements **decaf::util::List< E >** (p. 1897).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.24 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

References decaf::util::concurrent::locks::Lock::lock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::wr

6.190.2.25 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.190.2.26 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.190.2.27 template<typename E> CopyOnWriteArrayList<E>& decaf::util::concurrent::CopyOnWriteArrayList< E >::operator= (const Collection< E > & *list*) [inline]

References decaf::util::concurrent::CopyOnWriteArrayList< E >::clear(), decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.28 template<typename E> CopyOnWriteArrayList<E>& decaf::util::concurrent::CopyOnWriteArrayList< E >::operator= (const CopyOnWriteArrayList< E > & *list*) [inline]

References decaf::util::concurrent::CopyOnWriteArrayList< E >::clear(), decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.29 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::remove (const E & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection. More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implements **decaf::util::Collection< E >** (p. 1007).

References decaf::util::concurrent::CopyOnWriteArrayList< E >::indexOf(), decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAt(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.30 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAll (const Collection< E > & *collection*) [inline, virtual]

References decaf::util::Collection< E >::contains(), decaf::util::Collection< E >::isEmpty(), decaf::util::concurrent::locks::Lock::lock(), decaf::lang::Pointer< T, REFCOUNTER >::reset(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.31 template<typename E> virtual E decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAt (int *index*) [inline, virtual]

Removes the element at the specified position in this list. Shifts any subsequent elements to the left (subtracts one from their indices). Returns the element that was removed from the list.

Parameters:

index - the index of the element to be removed.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

Implements **decaf::util::List< E >** (p. 1897).

References decaf::util::concurrent::locks::Lock::lock(), decaf::lang::Pointer< T, REFCOUNTER >::reset(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::remove().

6.190.2.32 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::retainAll (const Collection< E > & *collection*) [inline, virtual]

References decaf::util::Collection< E >::contains(), decaf::util::Collection< E >::isEmpty(), decaf::util::concurrent::locks::Lock::lock(), decaf::lang::Pointer< T, REFCOUNTER >::reset(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.33 template<typename E> virtual E decaf::util::concurrent::CopyOnWriteArrayList< E >::set (int *index*, const E & *element*) [inline, virtual]

Replaces the element at the specified position in this list with the specified element.

Parameters:

index The index of the element to replace.

element The element to be stored at the specified position.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::List< E >** (p. 1898).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::lang::Pointer< T, REFCOUNTER >::swap(), decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.34 template<typename E> virtual int decaf::util::concurrent::CopyOnWriteArrayList< E >::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< E >** (p. 1009).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::add(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addIfAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::equals(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAt(), decaf::util::concurrent::CopyOnWriteArrayList< E >::retainAll(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::set().

6.190.2.35 template<typename E> virtual std::vector<E> decaf::util::concurrent::CopyOnWriteArrayList< E >::toArray () const [inline, virtual]

Returns an array containing all of the elements in this collection. If the collection makes any guarantees as to what order its elements are returned by its iterator, this method must return the elements in the same order.

This method acts as bridge between array-based and collection-based APIs.

Returns:

an array of the elements in this collection in the form of an STL vector.

Implements **decaf::util::Collection< E >** (p. 1010).

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.36 template<typename E> virtual std::string decaf::util::concurrent::CopyOnWriteArrayList< E >::toString () const [inline, virtual]

References decaf::util::concurrent::locks::Lock::lock(), decaf::util::concurrent::locks::ReentrantReadWriteLock::readLo and decaf::util::concurrent::locks::Lock::unlock().

6.190.2.37 template<typename E> virtual bool decaf::util::concurrent::CopyOnWriteArrayList< E >::tryLock () [inline, virtual]

Attempts to **Lock** (p. 1911) the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

References decaf::util::concurrent::locks::Lock::tryLock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.38 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

References decaf::util::concurrent::locks::Lock::unlock(), and decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock().

6.190.2.39 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

References decaf::util::concurrent::TimeUnit::MILLISECONDS, and decaf::util::concurrent::TimeUnit::toNanos().

6.190.2.40 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

References decaf::util::concurrent::TimeUnit::MILLISECONDS.

6.190.2.41 template<typename E> virtual void decaf::util::concurrent::CopyOnWriteArrayList< E >::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**CopyOnWriteArrayList.h**

6.191 decaf::util::concurrent::CopyOnWriteArraySet< E > Class Template Reference

Since the **CopyOnWriteArraySet** (p. 1215) and the **CopyOnWriteArrayList** (p. 1197) share much of the same operational semantics this class uses the **CopyOnWriteArrayList** (p. 1197) for all its underlying operations.

`#include <src/main/decaf/util/concurrent/CopyOnWriteArraySet.h>`Inheritance diagram for decaf::util::concurrent::CopyOnWriteArraySet< E >:

Public Member Functions

- **CopyOnWriteArraySet** ()
- **CopyOnWriteArraySet** (const **Collection**< E > &collection)
- **CopyOnWriteArraySet** (const E *array, int size)
- virtual ~**CopyOnWriteArraySet** ()
- virtual void **copy** (const **Collection**< E > &collection)

  *Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000).*

- virtual **decaf::util::Iterator**< E > * **iterator** ()
- virtual **decaf::util::Iterator**< E > * **iterator** () const
- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual bool **isEmpty** () const

  Returns true if this collection contains no elements.

- virtual bool **add** (const E &value)

  Returns true if this collection changed as a result of the call.

- virtual bool **addAll** (const **Collection**< E > &collection)

  This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.
  Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **contains** (const E &value) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

  Parameters:

  value *The value to check for presence in the collection.*

  Returns:

  true if there is at least one of the elements in the collection

Exceptions:

NullPointerException *if the* ***Collection*** *(p. 1000) contains pointers and the* ***Collection*** *(p. 1000) does not allow for NULL elements (optional check).*

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

- virtual bool **containsAll** (const **Collection**< E > &collection) const

  This implementation iterates over the specified collection, checking each element returned by the iterator in turn to see if it's contained in this collection. If all elements are so contained true is returned, otherwise false.

- virtual bool **remove** (const E &value)

  Removes a single instance of the specified element from the collection.
  More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

  Parameters:

  value *The reference to the element to remove from this* ***Collection*** *(p. 1000).*

  Returns:

  true if the collection was changed, false otherwise.

  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*

  This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.
  Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

- virtual bool **removeAll** (const **Collection**< E > &collection)

  This implementation iterates over this collection, checking each element returned by the iterator in turn to see if it's contained in the specified collection. If it's so contained, it's removed from this collection with the iterator's remove method.
  Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method and this collection contains one or more elements in common with the specified collection.
  This implementation determines which is the smaller of this set and the specified collection, by invoking the size method on each. If this set has fewer elements, then the implementation iterates over this set, checking each element returned by the iterator in turn to see if it is contained in the specified collection. If it is so contained, it is removed from this set with the iterator's remove method. If the specified collection has fewer elements, then the implementation iterates over the specified collection, removing from this set each element returned by the iterator, using this set's remove method.
  Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method.

- virtual bool **retainAll** (const **Collection**< E > &collection)

  This implementation iterates over this collection, checking each element returned by the iterator in turn to see if it's contained in the specified collection. If it's not so contained, it's removed from this collection with the iterator's remove method.
  Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method and this collection contains one or more elements not present in the specified collection.

- virtual std::vector< E > **toArray** () const

  Answers an STL vector containing copies of all elements contained in this ***Collection*** *(p. 1000).*

- virtual bool **equals** (const **Collection**< E > &collection) const

  Answers true if this ***Collection*** *(p. 1000) and the one given are the same size and if each element contained in the* ***Collection*** *(p. 1000) given is equal to an element contained in this collection.*

6.191.1 Detailed Description

template<typename E> class decaf::util::concurrent::CopyOnWriteArraySet< E >

Since the **CopyOnWriteArraySet** (p. 1215) and the **CopyOnWriteArrayList** (p. 1197) share much of the same operational semantics this class uses the **CopyOnWriteArrayList** (p. 1197) for all its underlying operations. This collection is best used in applications where the **Set** (p. 2700) size is usually small and write operations are minimal as they result in a copy of the underlying array being created. Reads are generally fast and the iterators provided by this collection do not block as they operate on a snapshot of the data taken at the time of their creation.

Since:

1.0

6.191.2 Constructor & Destructor Documentation

6.191.2.1 template<typename E > decaf::util::concurrent::CopyOnWriteArraySet< E >::CopyOnWriteArraySet () [inline]

6.191.2.2 template<typename E > decaf::util::concurrent::CopyOnWriteArraySet< E >::CopyOnWriteArraySet (const Collection< E > & *collection*) [inline]

References decaf::util::concurrent::CopyOnWriteArraySet< E >::copy().

6.191.2.3 template<typename E > decaf::util::concurrent::CopyOnWriteArraySet< E >::CopyOnWriteArraySet (const E * *array*, int *size*) [inline]

6.191.2.4 template<typename E > virtual decaf::util::concurrent::CopyOnWriteArraySet< E >::~CopyOnWriteArraySet () [inline, virtual]

6.191.3 Member Function Documentation

6.191.3.1 template<typename E > virtual bool decaf::util::concurrent::CopyOnWriteArraySet< E >::add (const E & *value*) [inline, virtual]

Returns true if this collection changed as a result of the call. (Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::Collection< E >** (p. 1001).

6.191.3.2 template<typename E > virtual bool decaf::util::concurrent::CopyOnWriteArraySet< E >::addAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty). This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 143).

6.191.3.3 template<typename E > virtual void decaf::util::concurrent::CopyOnWriteArraySet< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 144).

6.191.3.4 template<typename E > virtual bool decaf::util::concurrent::CopyOnWriteArraySet< E >::contains (const E & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element. This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 145).

6.191.3.5 template<typename E > virtual bool decaf::util::concurrent::CopyOnWriteArraySet< E >::containsAll (const Collection< E > & *collection*) const [inline, virtual]

This implementation iterates over the specified collection, checking each element returned by the iterator in turn to see if it's contained in this collection. If all elements are so contained true is returned, otherwise false. This implementation iterates over the specified collection, checking each element returned by the iterator in turn to see if it's contained in this collection. If all elements are so contained true is returned, otherwise false.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 146).

6.191.3.6 template<typename E > virtual void decaf::util::concurrent::CopyOnWriteArraySet< E >::copy (const Collection< E > & *collection*) [inline, virtual]

Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000). The default implementation iterates over the contents of the given collection adding each to this collection after first calling this Collection's clear method.

Parameters:

collection The collection to mirror.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

IllegalStateException if the elements cannot be added at this time due to insertion restrictions.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 146).

Referenced by decaf::util::concurrent::CopyOnWriteArraySet< E >::CopyOnWriteArraySet().

6.191.3.7 template<typename E > virtual bool decaf::util::concurrent::CopyOnWriteArraySet< E >::equals (const Collection< E > & *collection*) const [inline, virtual]

Answers true if this **Collection** (p. 1000) and the one given are the same size and if each element contained in the **Collection** (p. 1000) given is equal to an element contained in this collection.

Parameters:

collection - The **Collection** (p. 1000) to be compared to this one.

Returns:

true if this **Collection** (p. 1000) is equal to the one given.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

References decaf::lang::Iterable< E >::iterator(), NULL, decaf::util::Collection< E >::size(), and decaf::util::concurrent::CopyOnWriteArraySet< E >::size().

6.191.3.8 template<typename E > virtual bool decaf::util::concurrent::CopyOnWriteArraySet< E >::isEmpty () const [inline, virtual]

Returns true if this collection contains no elements. This implementation returns **size()** (p. 1223) == 0.

Returns:

true if the size method return 0.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

6.191.3.9 template<typename E > virtual decaf::util::Iterator<E>* decaf::util::concurrent::CopyOnWriteArraySet< E >::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< E >** (p. 1786).

6.191.3.10 template<typename E > virtual decaf::util::Iterator<E>* decaf::util::concurrent::CopyOnWriteArraySet< E >::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< E >** (p. 1787).

6.191.3.11 template<typename E > virtual bool decaf::util::concurrent::CopyOnWriteArraySet< E >::remove (const E & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object. This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 149).

6.191.3.12 template<typename E > virtual bool decaf::util::concurrent::CopyOnWriteArraySet< E >::removeAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over this collection, checking each element returned by the iterator in turn to see if it's contained in the specified collection. If it's so contained, it's removed from this collection with the iterator's remove method.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method and this collection contains one or more elements in common with the specified collection.

This implementation determines which is the smaller of this set and the specified collection, by invoking the size method on each. If this set has fewer elements, then the implementation iterates over this set, checking each element returned by the iterator in turn to see if it is contained in the specified collection. If it is so contained, it is removed from this set with the iterator's remove method. If the specified collection has fewer elements, then the implementation iterates over the specified collection, removing from this set each element returned by the iterator, using this set's remove method.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method. This implementation determines which is the smaller of this set and the specified collection, by invoking the size method on each. If this set has fewer elements, then the implementation iterates over this set, checking each element returned by the iterator in turn to see if it is contained in the specified collection. If it is so contained, it is removed from this set with the iterator's remove method. If the specified collection has fewer elements, then the implementation iterates over the specified collection, removing from this set each element returned by the iterator, using this set's remove method.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method.

Reimplemented from **decaf::util::AbstractSet< E >** (p. 199).

6.191.3.13 template<typename E > virtual bool decaf::util::concurrent::CopyOnWriteArraySet< E >::retainAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over this collection, checking each element returned by the iterator in turn to see if it's contained in the specified collection. If it's not so contained, it's removed from this collection with the iterator's remove method.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method and this collection contains one or more elements not present in the specified collection. This implementation iterates over this collection, checking each element returned by the iterator in turn to see if it's contained in the specified collection. If it's not so contained, it's removed from this collection with the iterator's remove method.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by the iterator method does not implement the remove method and this collection contains one or more elements not present in the specified collection.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 150).

6.191.3.14 template<typename E > virtual int decaf::util::concurrent::CopyOnWriteArraySet< E >::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< E >** (p. 1009).

Referenced by decaf::util::concurrent::CopyOnWriteArraySet< E >::equals().

6.191.3.15 template<typename E > virtual std::vector<E> decaf::util::concurrent::CopyOnWriteArraySet< E >::toArray () const [inline, virtual]

Answers an STL vector containing copies of all elements contained in this **Collection** (p. 1000). All the elements in the array will not be referenced by the collection. The elements in the returned array will be sorted to the same order as those returned by the iterator of this collection itself if the collection guarantees the order.

Returns:

an vector of copies of all the elements from this **Collection** (p. 1000)

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 150).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**CopyOnWriteArraySet.h**

6.192 decaf::util::concurrent::CountDownLatch Class Reference

`#include <src/main/decaf/util/concurrent/CountDownLatch.h>`

Public Member Functions

- **CountDownLatch** (int count)

  Constructor.

- virtual ~**CountDownLatch** ()
- virtual void **await** ()

  Causes the current thread to wait until the latch has counted down to zero, unless the thread is interrupted.

- virtual bool **await** (long long timeOut)

  Causes the current thread to wait until the latch has counted down to zero, unless the thread is interrupted, or the specified waiting time elapses.

- virtual bool **await** (long long timeout, const **TimeUnit** &unit)

  Causes the current thread to wait until the latch has counted down to zero, unless the thread is interrupted, or the specified waiting time elapses.

- virtual void **countDown** ()

  Counts down the latch, releasing all waiting threads when the count hits zero.

- virtual int **getCount** () const

  Gets the current count.

- virtual std::string **toString** () const

  Returns the string representation of this latch, includes the current count value at the time of calling.

6.192.1 Constructor & Destructor Documentation

6.192.1.1 decaf::util::concurrent::CountDownLatch::CountDownLatch (int *count*)

Constructor.

Parameters:

count - number to count down from.

6.192.1.2 virtual decaf::util::concurrent::CountDownLatch::~CountDownLatch () [virtual]

6.192.2 Member Function Documentation

6.192.2.1 virtual bool decaf::util::concurrent::CountDownLatch::await (long long *timeout*, const TimeUnit & *unit*) [virtual]

Causes the current thread to wait until the latch has counted down to zero, unless the thread is interrupted, or the specified waiting time elapses. If the current count is zero then this method returns immediately with the value true.

If the current count is greater than zero then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of three things happen:

∗ The count reaches zero due to invocations of the **countDown()** (p. 1226) method; or ∗ Some other thread interrupts the current thread; or ∗ The specified waiting time elapses.

If the count reaches zero then the method returns with the value true.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while waiting,

then InterruptedException is thrown and the current thread's interrupted status is cleared.

If the specified waiting time elapses then the value false is returned. If the time is less than or equal to zero, the method will not wait at all.

Parameters:

timeout - Time to wait for the count to reach zero.

unit - The units that the timeout specifies.

Exceptions:

InterruptedException - if the current thread is interrupted while waiting.

Exception - if any other error occurs.

6.192.2.2 virtual bool decaf::util::concurrent::CountDownLatch::await (long long *timeOut*) [virtual]

Causes the current thread to wait until the latch has counted down to zero, unless the thread is interrupted, or the specified waiting time elapses. If the current count is zero then this method returns immediately with the value true.

If the current count is greater than zero then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of three things happen:

∗ The count reaches zero due to invocations of the **countDown()** (p. 1226) method; or ∗ Some other thread interrupts the current thread; or ∗ The specified waiting time elapses.

If the count reaches zero then the method returns with the value true.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while waiting,

then InterruptedException is thrown and the current thread's interrupted status is cleared.

If the specified waiting time elapses then the value false is returned. If the time is less than or equal to zero, the method will not wait at all.

Parameters:

timeout - Time in milliseconds to wait for the count to reach zero.

Exceptions:

InterruptedException - if the current thread is interrupted while waiting.

Exception - if any other error occurs.

6.192.2.3 virtual void decaf::util::concurrent::CountDownLatch::await () [virtual]

Causes the current thread to wait until the latch has counted down to zero, unless the thread is interrupted. If the current count is zero then this method returns immediately.

If the current count is greater than zero then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of two things happen:

∗ The count reaches zero due to invocations of the **countDown()** (p. 1226) method; or ∗ Some other thread interrupts the current thread.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while waiting,

then InterruptedException is thrown and the current thread's interrupted status is cleared.

Exceptions:

InterruptedException - if the current thread is interrupted while waiting.

Exception - if any other error occurs.

6.192.2.4 virtual void decaf::util::concurrent::CountDownLatch::countDown () [virtual]

Counts down the latch, releasing all waiting threads when the count hits zero.

6.192.2.5 virtual int decaf::util::concurrent::CountDownLatch::getCount () const [virtual]

Gets the current count.

Returns:

int count value

6.192.2.6 virtual std::string decaf::util::concurrent::CountDownLatch::toString () const [virtual]

Returns the string representation of this latch, includes the current count value at the time of calling.

Returns:

string describing this **CountDownLatch** (p. 1224) instance.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**CountDownLatch.h**

6.193 decaf::util::zip::CRC32 Class Reference

Class that can be used to compute a CRC-32 checksum for a data stream.

`#include <src/main/decaf/util/zip/CRC32.h>`Inheritance diagram for decaf::util::zip::CRC32:

Public Member Functions

- **CRC32** ()
- virtual ~**CRC32** ()
- virtual long long **getValue** () const
- virtual void **reset** ()
  Reset the checksum to its initial value.
- virtual void **update** (const std::vector< unsigned char > &buffer)
  Updates the current checksum with the specified vector of bytes.
- virtual void **update** (const std::vector< unsigned char > &buffer, int offset, int length)
  Updates the current checksum with the specified array of bytes.
- virtual void **update** (const unsigned char *buffer, int size, int offset, int length)
  Updates the current checksum with the specified array of bytes.
- virtual void **update** (int byte)
  Updates the current checksum with the specified byte value.

6.193.1 Detailed Description

Class that can be used to compute a CRC-32 checksum for a data stream.

Since:

1.0

6.193.2 Constructor & Destructor Documentation

6.193.2.1 decaf::util::zip::CRC32::CRC32 ()

6.193.2.2 virtual decaf::util::zip::CRC32::~CRC32 () [virtual]

6.193.3 Member Function Documentation

6.193.3.1 virtual long long decaf::util::zip::CRC32::getValue () const [virtual]

Returns:

the current checksum value.

Implements **decaf::util::zip::Checksum** (p. 950).

6.193.3.2 virtual void decaf::util::zip::CRC32::reset () [virtual]

Reset the checksum to its initial value.

Implements **decaf::util::zip::Checksum** (p. 951).

6.193.3.3 virtual void decaf::util::zip::CRC32::update (int *byte*) [virtual]

Updates the current checksum with the specified byte value.

Parameters:

byte The byte value to update the current **Checksum** (p. 950) with (0..255).

Implements **decaf::util::zip::Checksum** (p. 951).

6.193.3.4 virtual void decaf::util::zip::CRC32::update (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Updates the current checksum with the specified array of bytes.

Parameters:

buffer The buffer to read the updated bytes from.

size The size of the passed buffer.

offset The position in the buffer to start reading.

length The amount of data to read from the byte buffer.

Exceptions:

NullPointerException if the passed buffer is NULL.

IndexOutOfBoundsException if offset + length > size of the buffer.

Implements **decaf::util::zip::Checksum** (p. 951).

6.193.3.5 virtual void decaf::util::zip::CRC32::update (const std::vector< unsigned char > & *buffer*, int *offset*, int *length*) [virtual]

Updates the current checksum with the specified array of bytes.

Parameters:

buffer The buffer to read the updated bytes from.

offset The position in the buffer to start reading.

length The amount of data to read from the byte buffer.

Exceptions:

IndexOutOfBoundsException if offset + length > size of the buffer.

Implements **decaf::util::zip::Checksum** (p. 951).

6.193.3.6 virtual void decaf::util::zip::CRC32::update (const std::vector< unsigned char > & *buffer*) [virtual]

Updates the current checksum with the specified vector of bytes.

Parameters:

buffer The buffer to read the updated bytes from.

Implements **decaf::util::zip::Checksum** (p. 952).

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**CRC32.h**

6.194 ct_data_s Struct Reference

`#include <src/main/decaf/internal/util/zip/deflate.h>`

Data Fields

- union {
  ush freq
  ush code
  } **fc**

- union {
  ush dad
  ush len
  } **dl**

6.194.1 Field Documentation

6.194.1.1 ush ct_data_s::code

6.194.1.2 ush ct_data_s::dad

6.194.1.3 union { ... } ct_data_s::dl

6.194.1.4 union { ... } ct_data_s::fc

6.194.1.5 ush ct_data_s::freq

6.194.1.6 ush ct_data_s::len

The documentation for this struct was generated from the following file:

- src/main/decaf/internal/util/zip/**deflate.h**

6.195 activemq::commands::DataArrayResponse Class Reference

`#include <src/main/activemq/commands/DataArrayResponse.h>`Inheritance diagram for activemq::commands::DataArrayResponse:

Public Member Functions

- **DataArrayResponse** ()
- virtual ~**DataArrayResponse** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **DataArrayResponse** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const std::vector< **decaf::lang::Pointer**< **DataStructure** > > & **getData** () const
- virtual std::vector< **decaf::lang::Pointer**< **DataStructure** > > & **getData** ()
- virtual void **setData** (const std::vector< **decaf::lang::Pointer**< **DataStructure** > > &**data**)

Static Public Attributes

- static const unsigned char **ID_DATAARRAYRESPONSE** = 33

Protected Attributes

- std::vector< **decaf::lang::Pointer**< **DataStructure** > > **data**

6.195.1 Constructor & Destructor Documentation

6.195.1.1 activemq::commands::DataArrayResponse::DataArrayResponse ()

6.195.1.2 virtual activemq::commands::DataArrayResponse::~DataArrayResponse () [virtual]

6.195.2 Member Function Documentation

6.195.2.1 virtual DataArrayResponse* activemq::commands::DataArrayResponse::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Response** (p. 2592).

6.195.2.2 virtual void activemq::commands::DataArrayResponse::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Response** (p. 2592).

6.195.2.3 virtual bool activemq::commands::DataArrayResponse::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::Response** (p. 2592).

6.195.2.4 virtual std::vector< decaf::lang::Pointer<DataStructure> >& activemq::commands::DataArrayResponse::getData () [virtual]

6.195.2.5 virtual const std::vector< decaf::lang::Pointer<DataStructure> >& activemq::commands::DataArrayResponse::getData () const [virtual]

6.195.2.6 virtual unsigned char activemq::commands::DataArrayResponse::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Response** (p. 2593).

6.195.2.7 virtual void activemq::commands::DataArrayResponse::setData (const std::vector< decaf::lang::Pointer< DataStructure > > & *data*) [virtual]

6.195.2.8 virtual std::string activemq::commands::DataArrayResponse::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Response** (p. 2593).

6.195.3 Field Documentation

6.195.3.1 std::vector< decaf::lang::Pointer<DataStructure> > activemq::commands::DataArrayResponse::data [protected]

6.195.3.2 const unsigned char activemq::commands::DataArrayResponse::ID_DATAARRAYRESPONSE = 33 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**DataArrayResponse.h**

6.196 activemq::wireformat::openwire::marshal::generated::DataArrayR Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **DataArrayResponseMarshaller** (p. 1235).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/DataArrayResponseMarshaller.h>`
diagram for activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller:

Public Member Functions

- **DataArrayResponseMarshaller** ()
- virtual ~**DataArrayResponseMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.196.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **DataArrayResponseMarshaller** (p. 1235).
NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.196.2 Constructor & Destructor Documentation

6.196.2.1 activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller::Data () [inline]

6.196.2.2 virtual activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller::~Dat () [inline, virtual]

6.196.3 Member Function Documentation

6.196.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller::create() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.196.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller::getDat() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.196.3.3 virtual void activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller::looseM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.196.3.4 virtual void activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller::looseU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604).

6.196.3.5 virtual int activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604).

6.196.3.6 virtual void activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2605).

6.196.3.7 virtual void activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller::tightU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2605).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**DataArrayResponseMarshaller.h**

6.197 decaf::util::zip::DataFormatException Class Reference

`#include <src/main/decaf/util/zip/DataFormatException.h>`Inheritance diagram for decaf::util::zip::DataFormatException:

Public Member Functions

- **DataFormatException** ()

  Default Constructor.

- **DataFormatException** (const **lang::Exception** &ex)

  Copy Constructor.

- **DataFormatException** (const **DataFormatException** &ex)

  Copy Constructor.

- **DataFormatException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **DataFormatException** (const std::exception *cause)

  Constructor.

- **DataFormatException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor.

- virtual **DataFormatException** * **clone** () const

  Clones this exception.

- virtual ~**DataFormatException** () throw ()

6.197.1 Constructor & Destructor Documentation

6.197.1.1 decaf::util::zip::DataFormatException::DataFormatException ()

Default Constructor.

6.197.1.2 decaf::util::zip::DataFormatException::DataFormatException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.197.1.3 decaf::util::zip::DataFormatException::DataFormatException (const DataFormatException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.197.1.4 decaf::util::zip::DataFormatException::DataFormatException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.197.1.5 decaf::util::zip::DataFormatException::DataFormatException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.197.1.6 decaf::util::zip::DataFormatException::DataFormatException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.197.1.7 virtual decaf::util::zip::DataFormatException::~DataFormatException () throw () [virtual]

6.197.2 Member Function Documentation

6.197.2.1 virtual DataFormatException* decaf::util::zip::DataFormatException::clone () const [virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new instance of an Exception that is a copy of this instance.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**DataFormatException.h**

6.198 decaf::net::DatagramPacket Class Reference

Class that represents a single datagram packet.

`#include <src/main/decaf/net/DatagramPacket.h>`

Public Member Functions

- **DatagramPacket** (unsigned char *bytes, int size, int length)

  *Creates a new **DatagramPacket** (p. 1242) for use in receiving a packet of the given length.*

- **DatagramPacket** (unsigned char *bytes, int size, int offset, int length)

  *Creates a new **DatagramPacket** (p. 1242) for use in receiving a packet of the given length starting at the specified offset into the buffer.*

- **DatagramPacket** (unsigned char *bytes, int size, int offset, int length, const **InetAddress** &address, int port)

  *Creates a new **DatagramPacket** (p. 1242) for use in sending a packet of the given length starting at the specified offset into the buffer to the specified host on the specified port.*

- **DatagramPacket** (unsigned char *bytes, int size, int length, const **InetAddress** &address, int port)

  *Creates a new **DatagramPacket** (p. 1242) for use in sending a packet of the given length to the specified host on the specified port.*

- **DatagramPacket** (unsigned char *bytes, int size, int length, const **SocketAddress** &address)

  *Creates a new **DatagramPacket** (p. 1242) for use in sending a packet of the given length into the buffer to the specified socket address.*

- **DatagramPacket** (unsigned char *bytes, int size, int offset, int length, const **SocketAddress** &address)

  *Creates a new **DatagramPacket** (p. 1242) for use in sending a packet of the given length starting at the specified offset into the buffer to the specified socket address.*

- virtual ~**DatagramPacket** ()
- **InetAddress** * **getAddress** () const
- void **setAddress** (const **InetAddress** &address)

  Sets the IP address of the machine to which this datagram is being sent.

- **SocketAddress** * **getSocketAddress** () const

  *Gets the **SocketAddress** (p. 2770) (usually IP address + port number) of the remote host that this packet is being sent to or is coming from.*

- void **setSocketAddress** (const **SocketAddress** &address)

  *Sets the **SocketAddress** (p. 2770) (usually IP address + port number) of the remote host to which this datagram is being sent.*

- int **getPort** () const
- void **setPort** (int port)

  Sets the port number on the remote host to which this datagram is being sent.

- int **getOffset** () const
- void **setOffset** (int offset)

  Sets the offset into the data buffer where data to sent is to be read from or where the data that is received should start writing to.

- int **getLength** () const
- void **setLength** (int length)

  Set the length for this packet.

- unsigned char * **getData** () const
- int **getSize** () const
- void **setData** (unsigned char *buffer, int size)

  Set the data buffer for this packet.

- void **setData** (unsigned char *buffer, int size, int offset, int length)

  Set the data buffer for this packet.

6.198.1 Detailed Description

Class that represents a single datagram packet. Datagrams are sent in packets from machine to machine and can each be routed differently and can arrive in any order. Delivery of a packet is not guaranteed.

Since:

1.0

6.198.2 Constructor & Destructor Documentation

6.198.2.1 decaf::net::DatagramPacket::DatagramPacket (unsigned char * *bytes*, int *size*, int *length*)

Creates a new **DatagramPacket** (p. 1242) for use in receiving a packet of the given length.

Parameters:

bytes The array of bytes to hold the incoming datagram buffer.

size The size of the supplied byte array.

length The number of byte to read starting at the supplied offset.

Exceptions:

NullPointerException if the pointer to the buffer is NULL.

IndexOutOfBoundsException if the number of bytes to read exceeds the buffer size.

6.198.2.2 decaf::net::DatagramPacket::DatagramPacket (unsigned char * *bytes*, int *size*, int *offset*, int *length*)

Creates a new **DatagramPacket** (p. 1242) for use in receiving a packet of the given length starting at the specified offset into the buffer.

Parameters:

bytes The array of bytes to hold the incoming datagram buffer.

size The size of the supplied byte array.

offset The position in the array to start writing to.

length The number of byte to read starting at the supplied offset.

Exceptions:

NullPointerException if the pointer to the buffer is NULL.

IndexOutOfBoundsException if the number of bytes to copy exceeds the buffer size.

6.198.2.3 decaf::net::DatagramPacket::DatagramPacket (unsigned char * *bytes*, int *size*, int *offset*, int *length*, const InetAddress & *address*, int *port*)

Creates a new **DatagramPacket** (p. 1242) for use in sending a packet of the given length starting at the specified offset into the buffer to the specified host on the specified port.

Parameters:

bytes The array of bytes to hold the outgoing datagram buffer.

size The size of the supplied byte array.

offset The position in the array to start writing to.

length The number of byte to read starting at the supplied offset.

address The Address to send the packet to

port The port on the destination that is to receive this packet.

Exceptions:

NullPointerException if the pointer to the buffer is NULL.

IndexOutOfBoundsException if the number of bytes to copy exceeds the buffer size.

6.198.2.4 decaf::net::DatagramPacket::DatagramPacket (unsigned char * *bytes*, int *size*, int *length*, const InetAddress & *address*, int *port*)

Creates a new **DatagramPacket** (p. 1242) for use in sending a packet of the given length to the specified host on the specified port.

Parameters:

bytes The array of bytes to hold the outgoing datagram buffer.

size The size of the supplied byte array.

length The number of byte to read starting at the supplied offset.

address The Address to send the packet to

port The port on the destination that is to receive this packet.

Exceptions:

NullPointerException if the pointer to the buffer is NULL.

IndexOutOfBoundsException if the number of bytes to copy exceeds the buffer size.

6.198.2.5 decaf::net::DatagramPacket::DatagramPacket (unsigned char * *bytes*, int *size*, int *length*, const SocketAddress & *address*)

Creates a new **DatagramPacket** (p. 1242) for use in sending a packet of the given length into the buffer to the specified socket address.

Parameters:

bytes The array of bytes to hold the outgoing datagram buffer.

size The size of the supplied byte array.

length The number of byte to read starting at the supplied offset.

address The Address to send the packet to

Exceptions:

NullPointerException if the pointer to the buffer is NULL.

IndexOutOfBoundsException if the number of bytes to copy exceeds the buffer size.

6.198.2.6 decaf::net::DatagramPacket::DatagramPacket (unsigned char * *bytes*, int *size*, int *offset*, int *length*, const SocketAddress & *address*)

Creates a new **DatagramPacket** (p. 1242) for use in sending a packet of the given length starting at the specified offset into the buffer to the specified socket address.

Parameters:

bytes The array of bytes to hold the outgoing datagram buffer.

size The size of the supplied byte array.

offset The position in the array to start writing to.

length The number of byte to read starting at the supplied offset.

address The Address to send the packet to

Exceptions:

NullPointerException if the pointer to the buffer is NULL.

IndexOutOfBoundsException if the number of bytes to copy exceeds the buffer size.

6.198.2.7 virtual decaf::net::DatagramPacket::~DatagramPacket () [virtual]

6.198.3 Member Function Documentation

6.198.3.1 InetAddress* decaf::net::DatagramPacket::getAddress () const

Returns:

the IP address that this datagram packet is being sent to or was received from.

6.198.3.2 unsigned char* decaf::net::DatagramPacket::getData () const

Returns:

the data buffer. The data received or the data to be sent starts from the offset in the buffer, and continues for length bytes.

6.198.3.3 int decaf::net::DatagramPacket::getLength () const

Returns:

the length of the data to be sent or the length of the data received.

6.198.3.4 int decaf::net::DatagramPacket::getOffset () const

Returns:

the offset of the data to be sent or the offset of the data received.

6.198.3.5 int decaf::net::DatagramPacket::getPort () const

Returns:

the port number that this datagram packet is being sent to or was received from.

6.198.3.6 int decaf::net::DatagramPacket::getSize () const

Returns:

the size of the buffer used in this datagram packet.

6.198.3.7 SocketAddress* decaf::net::DatagramPacket::getSocketAddress () const

Gets the **SocketAddress** (p. 2770) (usually IP address + port number) of the remote host that this packet is being sent to or is coming from.

Returns:

the **SocketAddress** (p. 2770) for this datagram packet.

6.198.3.8 void decaf::net::DatagramPacket::setAddress (const InetAddress & *address*)

Sets the IP address of the machine to which this datagram is being sent.

Parameters:

address The IP address.

6.198.3.9 void decaf::net::DatagramPacket::setData (unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Set the data buffer for this packet. With the offset of this **DatagramPacket** (p. 1242) set to 0, and the length set to the size value specified.

Parameters:

buffer The new data buffer to use for this datagram packet.

size The size of the buffer.

offset The position in the buffer to read from or write to.

length The number of bytes that will be read into the buffer or sent from the buffer.

Exceptions:

NullPointerException if the buffer pointer is NULL.

6.198.3.10 void decaf::net::DatagramPacket::setData (unsigned char * *buffer*, int *size*)

Set the data buffer for this packet. With the offset of this **DatagramPacket** (p. 1242) set to 0, and the length set to the size value specified.

Parameters:

buffer The new data buffer to use for this datagram packet.

size The size of the buffer.

Exceptions:

NullPointerException if the buffer pointer is NULL.

6.198.3.11 void decaf::net::DatagramPacket::setLength (int *length*)

Set the length for this packet. The length of the packet is the number of bytes from the packet's data buffer that will be sent, or the number of bytes of the packet's data buffer that will be used for receiving data. The length must be lesser or equal to the offset plus the length of the packet's buffer.

Parameters:

length The length value to set for this packet.

Exceptions:

IllegalArgumentException if the value is negative or exceeds the data buffers length.

6.198.3.12 void decaf::net::DatagramPacket::setOffset (int *offset*)

Sets the offset into the data buffer where data to sent is to be read from or where the data that is received should start writing to.

Parameters:

offset The buffer offset value.

Exceptions:

IllegalArgumentException if the offset value is greater than the buffer size.

6.198.3.13 void decaf::net::DatagramPacket::setPort (int *port*)

Sets the port number on the remote host to which this datagram is being sent.

Parameters:

port The port on the remote host.

Exceptions:

IllegalArgumentException if the port value is not in the range [0..65535].

6.198.3.14 void decaf::net::DatagramPacket::setSocketAddress (const SocketAddress & *address*)

Sets the **SocketAddress** (p. 2770) (usually IP address + port number) of the remote host to which this datagram is being sent.

Parameters:

address The **SocketAddress** (p. 2770) (IP + port) for this datagram packet.

Exceptions:

IllegalArgumentException if the subclass of address is not supported by this **Socket** (p. 2755).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**DatagramPacket.h**

6.199 decaf::io::DataInput Class Reference

The **DataInput** (p. 1249) interface provides for reading bytes from a binary stream and reconstructing from them data in any of the C++ primitive types.

`#include <src/main/decaf/io/DataInput.h>`

Public Member Functions

- virtual ~**DataInput** ()
- virtual bool **readBoolean** ()=0

  Reads in one byte and returns true if that byte is nonzero, false if that byte is zero.

- virtual char **readByte** ()=0

  Reads and returns one input byte.

- virtual unsigned char **readUnsignedByte** ()=0

  Reads one input byte, zero-extends it to type int, and returns the result, which is therefore in the range 0 through 255.

- virtual char **readChar** ()=0

  Reads an input char and returns the char value.

- virtual double **readDouble** ()=0

  Reads eight input bytes and returns a double value.

- virtual float **readFloat** ()=0

  Reads four input bytes and returns a float value.

- virtual int **readInt** ()=0

  Reads four input bytes and returns an int value.

- virtual long long **readLong** ()=0

  Reads eight input bytes and returns a long value.

- virtual short **readShort** ()=0

  Reads two input bytes and returns a short value.

- virtual unsigned short **readUnsignedShort** ()=0

  Reads two input bytes and returns an int value in the range 0 through 65535.

- virtual std::string **readString** ()=0

  Reads an NULL terminated ASCII string to the stream and returns the string to the caller.

- virtual std::string **readLine** ()=0

  Reads the next line of text from the input stream.

- virtual std::string **readUTF** ()=0

  Reads a modified UTF-8 encoded string in ASCII format and returns it, this is only useful if you know for sure that the string that is to be read was a string that contained all ASCII values (0-255), if so this method will throw a UTFFormatException.

- virtual void **readFully** (unsigned char *buffer, int size)=0

  Reads some bytes from an input stream and stores them into the buffer array buffer.

- virtual void **readFully** (unsigned char *buffer, int size, int offset, int length)=0

  Reads length bytes from an input stream.

- virtual long long **skipBytes** (long long num)=0

  Makes an attempt to skip over n bytes of data from the input stream, discarding the skipped bytes.

6.199.1 Detailed Description

The **DataInput** (p. 1249) interface provides for reading bytes from a binary stream and reconstructing from them data in any of the C++ primitive types. There is also a facility for reconstructing Strings from data in the Java standard modified UTF-8 format.

It is generally true of all the reading routines in this interface that if end of file is reached before the desired number of bytes has been read, an **EOFException** (p. 1439) is thrown. If any byte cannot be read for any reason other than end of file, an **IOException** (p. 1774) other than **EOFException** (p. 1439) is thrown. for example, an **IOException** (p. 1774) may be thrown if the underlying input stream has been closed.

See also:

DataOutput (p. 1265)
DataInputStream (p. 1257)

Since:

1.0

6.199.2 Constructor & Destructor Documentation

6.199.2.1 virtual decaf::io::DataInput::~DataInput () [virtual]

6.199.3 Member Function Documentation

6.199.3.1 virtual bool decaf::io::DataInput::readBoolean () [pure virtual]

Reads in one byte and returns true if that byte is nonzero, false if that byte is zero.

Returns:

the boolean value of the read in byte (0=false, 1=true).

Exceptions:

IOException *(p. **1774**)* if an I/O Error occurs.

EOFException *(p. **1439**)* if the end of input is reached.

6.199.3.2 virtual char decaf::io::DataInput::readByte () [pure virtual]

Reads and returns one input byte. The byte is treated as a signed value in the range -128 through 127, inclusive.

Returns:

the 8-bit value read.

Exceptions:

IOException *(*p. *1774**)* if an I/O Error occurs.

EOFException *(*p. *1439**)* if the end of input is reached.

6.199.3.3 virtual char decaf::io::DataInput::readChar () [pure virtual]

Reads an input char and returns the char value. A ascii char is made up of one bytes. This returns the same result as `readByte`

Returns:

the 8 bit char read.

Exceptions:

IOException *(*p. *1774**)* if an I/O Error occurs.

EOFException *(*p. *1439**)* if the end of input is reached.

6.199.3.4 virtual double decaf::io::DataInput::readDouble () [pure virtual]

Reads eight input bytes and returns a double value. It does this by first constructing a long long value in exactly the manner of the readlong method, then converting this long value to a double in exactly the manner of the method Double::longBitsToDouble.

Returns:

the double value read.

Exceptions:

IOException *(*p. *1774**)* if an I/O Error occurs.

EOFException *(*p. *1439**)* if the end of input is reached.

6.199.3.5 virtual float decaf::io::DataInput::readFloat () [pure virtual]

Reads four input bytes and returns a float value. It does this by first constructing an int value in exactly the manner of the readInt method, then converting this int value to a float in exactly the manner of the method Float::intBitsToFloat.

Returns:

the float value read.

Exceptions:

IOException *(*p. ***1774****)* if an I/O Error occurs.

EOFException *(*p. ***1439****)* if the end of input is reached.

6.199.3.6 virtual void decaf::io::DataInput::readFully (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [pure virtual]

Reads length bytes from an input stream. This method blocks until one of the following conditions occurs: * length bytes of input data are available, in which case a normal return is made. * End of file is detected, in which case an **EOFException** (p. 1439) is thrown. * An I/O error occurs, in which case an **IOException** (p. 1774) other than **EOFException** (p. 1439) is thrown.

If buffer is NULL, a NullPointerException is thrown. If offset+length is greater than the length of the array buffer, then an IndexOutOfBoundsException is thrown. If length is zero, then no bytes are read. Otherwise, the first byte read is stored into element buffer[off], the next one into buffer[offset+1], and so on. The number of bytes read is, at most, equal to length.

Parameters:

buffer The byte array to insert read data into.

size The size in bytes of the given byte buffer.

offset The location in buffer to start writing.

length The number of bytes to read from the buffer.

Exceptions:

IOException *(*p. ***1774****)* if an I/O Error occurs.

EOFException *(*p. ***1439****)* if the end of input is reached.

NullPointerException if the buffer is NULL.

IndexOutOfBoundsException if the offset + length > size, or an int param is negative.

6.199.3.7 virtual void decaf::io::DataInput::readFully (unsigned char * *buffer*, int *size*) [pure virtual]

Reads some bytes from an input stream and stores them into the buffer array buffer. The number of bytes read is equal to the length of buffer.

This method blocks until one of the following conditions occurs: * buffer's size bytes of input data are available, in which case a normal return is made. * End of file is detected, in which case an **EOFException** (p. 1439) is thrown. * An I/O error occurs, in which case an **IOException** (p. 1774) other than **EOFException** (p. 1439) is thrown.

If buffer size is zero, then no bytes are read. Otherwise, the first byte read is stored into element b[0], the next one into buffer[1], and so on. If an exception is thrown from this method, then it may be that some but not all bytes of buffer have been updated with data from the input stream.

Parameters:

buffer The byte array to insert read data into.

size The size in bytes of the given byte buffer.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.
EOFException *(p. 1439)* if the end of input is reached.
IndexOutOfBoundsException if the size value is negative.

6.199.3.8 virtual int decaf::io::DataInput::readInt () [pure virtual]

Reads four input bytes and returns an int value. Let a be the first byte read, b be the second byte, c be the third byte, and d be the fourth byte. The value returned is:

(((a & 0xff) << 24) | ((b & 0xff) << 16) | ((c & 0xff) << 8) | (d & 0xff))

Returns:

the int value read.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.
EOFException *(p. 1439)* if the end of input is reached.

6.199.3.9 virtual std::string decaf::io::DataInput::readLine () [pure virtual]

Reads the next line of text from the input stream. It reads successive bytes, converting each byte to an ASCII char separately, until it encounters a line terminator or end of file; the characters read are then returned as a standard String. Note that because this method processes bytes, it does not support input of the full Unicode character set.

If end of file is encountered before even one byte can be read, then an empty string is returned. Otherwise, each byte that is read is converted to type char. If the character '

' is encountered, it is discarded and reading ceases. If the character " is encountered, it is discarded and, if the following byte converts to the character '

', then that is discarded also; reading then ceases. If end of file is encountered before either of the characters '

' and " is encountered, reading ceases. Once reading has ceased, a String is returned that contains all the characters read and not discarded, taken in order.

Returns:

the next line of text read from the input stream or empty string if at EOF.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

6.199.3.10 virtual long long decaf::io::DataInput::readLong () [pure virtual]

Reads eight input bytes and returns a long value. Let a be the first byte read, b be the second byte, c be the third byte, d be the fourth byte, e be the fifth byte, f be the sixth byte, g be the seventh byte, and h be the eighth byte. The value returned is:

(((long)(a & 0xff) << 56) | ((long)(b & 0xff) << 48) | ((long)(c & 0xff) << 40) | ((long)(d & 0xff) << 32) | ((long)(e & 0xff) << 24) | ((long)(f & 0xff) << 16) | ((long)(g & 0xff) << 8) | ((long)(h & 0xff)))

Returns:

the 64 bit long long read.

Exceptions:

IOException *(p. **1774**)* if an I/O Error occurs.
EOFException *(p. **1439**)* if the end of input is reached.

6.199.3.11 virtual short decaf::io::DataInput::readShort () [pure virtual]

Reads two input bytes and returns a short value. Let a be the first byte read and b be the second byte. The value returned is:

(short)((a << 8) | (b & 0xff))

Returns:

the 16 bit short value read.

Exceptions:

IOException *(p. **1774**)* if an I/O Error occurs.
EOFException *(p. **1439**)* if the end of input is reached.

6.199.3.12 virtual std::string decaf::io::DataInput::readString () [pure virtual]

Reads an NULL terminated ASCII string to the stream and returns the string to the caller.

Returns:

string object containing the string read.

Exceptions:

IOException *(p. **1774**)* if an I/O Error occurs.
EOFException *(p. **1439**)* if the end of input is reached.

6.199.3.13 virtual unsigned char decaf::io::DataInput::readUnsignedByte () [pure virtual]

Reads one input byte, zero-extends it to type int, and returns the result, which is therefore in the range 0 through 255.

Returns:

the 8 bit unsigned value read.

Exceptions:

IOException *(p. **1774**)* if an I/O Error occurs.
EOFException *(p. **1439**)* if the end of input is reached.

6.199.3.14 virtual unsigned short decaf::io::DataInput::readUnsignedShort () [pure virtual]

Reads two input bytes and returns an int value in the range 0 through 65535. Let a be the first byte read and b be the second byte. The value returned is:

(((a & 0xff) << 8) | (b & 0xff))

Returns:

the 16 bit unsigned short read.

Exceptions:

IOException *(*p. ***1774***)* if an I/O Error occurs.

EOFException *(*p. ***1439***)* if the end of input is reached.

6.199.3.15 virtual std::string decaf::io::DataInput::readUTF () [pure virtual]

Reads a modified UTF-8 encoded string in ASCII format and returns it, this is only useful if you know for sure that the string that is to be read was a string that contained all ASCII values (0-255), if so this method will throw a UTFFormatException. This method reads String value written from a Java **DataOutputStream** (p. 1270) and assumes that the length prefix the precedes the encoded UTF-8 bytes is an unsigned short, which implies that the String will be no longer than 65535 characters.

Returns:

The decoded string read from stream.

Exceptions:

IOException *(*p. ***1774***)* if an I/O Error occurs.

EOFException *(*p. ***1439***)* if the end of input is reached.

UTFDataFormatException *(*p. ***3200***)* if the bytes are not valid modified UTF-8 values.

6.199.3.16 virtual long long decaf::io::DataInput::skipBytes (long long *num*) [pure virtual]

Makes an attempt to skip over n bytes of data from the input stream, discarding the skipped bytes. However, it may skip over some smaller number of bytes, possibly zero. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. This method never throws an **EOFException** (p. 1439). The actual number of bytes skipped is returned.

Parameters:

num The number of bytes to skip over.

Returns:

the total number of bytes skipped.

Exceptions:

IOException *(*p. ***1774****)* if an I/O Error occurs.

The documentation for this class was generated from the following file:

- src/main/decaf/io/**DataInput.h**

6.200 decaf::io::DataInputStream Class Reference

A data input stream lets an application read primitive Java data types from an underlying input stream in a machine-independent way.

`#include <src/main/decaf/io/DataInputStream.h>`Inheritance diagram for decaf::io::DataInputStream:

Public Member Functions

- **DataInputStream** (**InputStream** ∗**inputStream**, bool **own**=false)

  *Creates a **DataInputStream** (p. 1257) that uses the specified underlying **InputStream** (p. 1694).*

- virtual ∼**DataInputStream** ()
- virtual bool **readBoolean** ()

  Reads in one byte and returns true if that byte is nonzero, false if that byte is zero.

- virtual char **readByte** ()

  Reads and returns one input byte.

- virtual unsigned char **readUnsignedByte** ()

  Reads one input byte, zero-extends it to type int, and returns the result, which is therefore in the range 0 through 255.

- virtual char **readChar** ()

  Reads an input char and returns the char value.

- virtual double **readDouble** ()

  Reads eight input bytes and returns a double value.

- virtual float **readFloat** ()

  Reads four input bytes and returns a float value.

- virtual int **readInt** ()

  Reads four input bytes and returns an int value.

- virtual long long **readLong** ()

  Reads eight input bytes and returns a long value.

- virtual short **readShort** ()

  Reads two input bytes and returns a short value.

- virtual unsigned short **readUnsignedShort** ()

  Reads two input bytes and returns an int value in the range 0 through 65535.

- virtual std::string **readString** ()

  Reads an NULL terminated ASCII string to the stream and returns the string to the caller.

- virtual std::string **readLine** ()

  Reads the next line of text from the input stream.

- virtual std::string **readUTF** ()

  Reads a modified UTF-8 encoded string in ASCII format and returns it, this is only useful if you know for sure that the string that is to be read was a string that contained all ASCII values (0-255), if so this method will throw a UTFFormatException.

- virtual void **readFully** (unsigned char *buffer, int size)

  Reads some bytes from an input stream and stores them into the buffer array buffer.

- virtual void **readFully** (unsigned char *buffer, int size, int offset, int length)

  Reads length bytes from an input stream.

- virtual long long **skipBytes** (long long num)

  Makes an attempt to skip over n bytes of data from the input stream, discarding the skipped bytes.

6.200.1 Detailed Description

A data input stream lets an application read primitive Java data types from an underlying input stream in a machine-independent way. An application uses a data output stream to write data that can later be read by a data input stream.

Due to the lack of garbage collection in C++ a design decision was made to add a boolean parameter to the constructor indicating if the wrapped `InputStream` (p. 1694) is owned by this object. That way creation of the underlying stream can occur in a Java like way. Ex:

DataInputStream (p. 1257) os = new **DataInputStream** (p. 1257)(new **InputStream()** (p. 1695), true)

Since:

1.0

6.200.2 Constructor & Destructor Documentation

6.200.2.1 decaf::io::DataInputStream::DataInputStream (InputStream * *inputStream*, bool *own* = `false`)

Creates a **DataInputStream** (p. 1257) that uses the specified underlying **InputStream** (p. 1694).

Parameters:

inputStream the **InputStream** (p. 1694) instance to wrap.

own indicates if this class owns the wrapped string defaults to false.

6.200.2.2 virtual decaf::io::DataInputStream::~DataInputStream () [virtual]

6.200.3 Member Function Documentation

6.200.3.1 virtual bool decaf::io::DataInputStream::readBoolean () [virtual]

Reads in one byte and returns true if that byte is nonzero, false if that byte is zero.

Returns:

the boolean value of the read in byte (0=false, 1=true).

Exceptions:

IOException *(*p. *1774**)* if an I/O Error occurs.

EOFException *(*p. *1439**)* if the end of input is reached.

6.200.3.2 virtual char decaf::io::DataInputStream::readByte () [virtual]

Reads and returns one input byte. The byte is treated as a signed value in the range -128 through 127, inclusive.

Returns:

the 8-bit value read.

Exceptions:

IOException *(*p. *1774**)* if an I/O Error occurs.

EOFException *(*p. *1439**)* if the end of input is reached.

6.200.3.3 virtual char decaf::io::DataInputStream::readChar () [virtual]

Reads an input char and returns the char value. A ascii char is made up of one bytes. This returns the same result as `readByte`

Returns:

the 8 bit char read.

Exceptions:

IOException *(*p. *1774**)* if an I/O Error occurs.

EOFException *(*p. *1439**)* if the end of input is reached.

6.200.3.4 virtual double decaf::io::DataInputStream::readDouble () [virtual]

Reads eight input bytes and returns a double value. It does this by first constructing a long long value in exactly the manner of the readlong method, then converting this long value to a double in exactly the manner of the method Double::longBitsToDouble.

Returns:

the double value read.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

EOFException *(p. 1439)* if the end of input is reached.

6.200.3.5 virtual float decaf::io::DataInputStream::readFloat () [virtual]

Reads four input bytes and returns a float value. It does this by first constructing an int value in exactly the manner of the readInt method, then converting this int value to a float in exactly the manner of the method Float::intBitsToFloat.

Returns:

the float value read.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

EOFException *(p. 1439)* if the end of input is reached.

6.200.3.6 virtual void decaf::io::DataInputStream::readFully (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Reads length bytes from an input stream. This method blocks until one of the following conditions occurs: * length bytes of input data are available, in which case a normal return is made. * End of file is detected, in which case an **EOFException** (p. 1439) is thrown. * An I/O error occurs, in which case an **IOException** (p. 1774) other than **EOFException** (p. 1439) is thrown.

If buffer is NULL, a NullPointerException is thrown. If offset+length is greater than the length of the array buffer, then an IndexOutOfBoundsException is thrown. If length is zero, then no bytes are read. Otherwise, the first byte read is stored into element buffer[off], the next one into buffer[offset+1], and so on. The number of bytes read is, at most, equal to length.

Parameters:

buffer The byte array to insert read data into.

size The size in bytes of the given byte buffer.

offset The location in buffer to start writing.

length The number of bytes to read from the buffer.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

EOFException *(p. 1439)* if the end of input is reached.

NullPointerException if the buffer is NULL.

IndexOutOfBoundsException if the offset + length > size.

6.200.3.7 virtual void decaf::io::DataInputStream::readFully (unsigned char * *buffer*, int *size*) [virtual]

Reads some bytes from an input stream and stores them into the buffer array buffer. The number of bytes read is equal to the length of buffer.

This method blocks until one of the following conditions occurs: * buffer's size bytes of input data are available, in which case a normal return is made. * End of file is detected, in which case an **EOFException** (p. 1439) is thrown. * An I/O error occurs, in which case an **IOException** (p. 1774) other than **EOFException** (p. 1439) is thrown.

If buffer size is zero, then no bytes are read. Otherwise, the first byte read is stored into element b[0], the next one into buffer[1], and so on. If an exception is thrown from this method, then it may be that some but not all bytes of buffer have been updated with data from the input stream.

Parameters:

buffer The byte array to insert read data into.

size The size in bytes of the given byte buffer.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

EOFException *(p. 1439)* if the end of input is reached.

IndexOutOfBoundsException if the size value is negative.

6.200.3.8 virtual int decaf::io::DataInputStream::readInt () [virtual]

Reads four input bytes and returns an int value. Let a be the first byte read, b be the second byte, c be the third byte, and d be the fourth byte. The value returned is:

(((a & 0xff) << 24) | ((b & 0xff) << 16) | ((c & 0xff) << 8) | (d & 0xff))

Returns:

the int value read.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

EOFException *(p. 1439)* if the end of input is reached.

6.200.3.9 virtual std::string decaf::io::DataInputStream::readLine () [virtual]

Reads the next line of text from the input stream. It reads successive bytes, converting each byte to an ASCII char separately, until it encounters a line terminator or end of file; the characters read are then returned as a standard String. Note that because this method processes bytes, it does not support input of the full Unicode character set.

If end of file is encountered before even one byte can be read, then an empty string is returned. Otherwise, each byte that is read is converted to type char. If the character '

' is encountered, it is discarded and reading ceases. If the character " is encountered, it is discarded and, if the following byte converts to the character '

', then that is discarded also; reading then ceases. If end of file is encountered before either of the characters '

' and " is encountered, reading ceases. Once reading has ceased, a String is returned that contains all the characters read and not discarded, taken in order.

Returns:

the next line of text read from the input stream or empty string if at EOF.

Exceptions:

IOException *(*p. ***1774****)* if an I/O Error occurs.

6.200.3.10 virtual long long decaf::io::DataInputStream::readLong () [virtual]

Reads eight input bytes and returns a long value. Let a be the first byte read, b be the second byte, c be the third byte, d be the fourth byte, e be the fifth byte, f be the sixth byte, g be the seventh byte, and h be the eighth byte. The value returned is:

(((long)(a & 0xff) << 56) | ((long)(b & 0xff) << 48) | ((long)(c & 0xff) << 40) | ((long)(d & 0xff) << 32) | ((long)(e & 0xff) << 24) | ((long)(f & 0xff) << 16) | ((long)(g & 0xff) << 8) | ((long)(h & 0xff)))

Returns:

the 64 bit long long read.

Exceptions:

IOException *(*p. ***1774****)* if an I/O Error occurs.

EOFException *(*p. ***1439****)* if the end of input is reached.

6.200.3.11 virtual short decaf::io::DataInputStream::readShort () [virtual]

Reads two input bytes and returns a short value. Let a be the first byte read and b be the second byte. The value returned is:

(short)((a << 8) | (b & 0xff))

Returns:

the 16 bit short value read.

Exceptions:

IOException *(*p. ***1774****)* if an I/O Error occurs.

EOFException *(*p. ***1439****)* if the end of input is reached.

6.200.3.12 virtual std::string decaf::io::DataInputStream::readString () [virtual]

Reads an NULL terminated ASCII string to the stream and returns the string to the caller.

Returns:

string object containing the string read.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

EOFException *(p. 1439)* if the end of input is reached.

6.200.3.13 virtual unsigned char decaf::io::DataInputStream::readUnsignedByte () [virtual]

Reads one input byte, zero-extends it to type int, and returns the result, which is therefore in the range 0 through 255.

Returns:

the 8 bit unsigned value read.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

EOFException *(p. 1439)* if the end of input is reached.

6.200.3.14 virtual unsigned short decaf::io::DataInputStream::readUnsignedShort () [virtual]

Reads two input bytes and returns an int value in the range 0 through 65535. Let a be the first byte read and b be the second byte. The value returned is:

(((a & 0xff) << 8) | (b & 0xff))

Returns:

the 16 bit unsigned short read.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

EOFException *(p. 1439)* if the end of input is reached.

6.200.3.15 virtual std::string decaf::io::DataInputStream::readUTF () [virtual]

Reads a modified UTF-8 encoded string in ASCII format and returns it, this is only useful if you know for sure that the string that is to be read was a string that contained all ASCII values (0-255), if so this method will throw a UTFFormatException. This method reads String value written from a Java **DataOutputStream** (p. 1270) and assumes that the length prefix the precedes the encoded UTF-8 bytes is an unsigned short, which implies that the String will be no longer than 65535 characters.

Returns:

The decoded string read from stream.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

EOFException *(p. 1439)* if the end of input is reached.

UTFDataFormatException *(p. 3200)* if the bytes are not valid modified UTF-8 values.

6.200.3.16 virtual long long decaf::io::DataInputStream::skipBytes (long long *num*) [virtual]

Makes an attempt to skip over n bytes of data from the input stream, discarding the skipped bytes. However, it may skip over some smaller number of bytes, possibly zero. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. This method never throws an **EOFException** (p. 1439). The actual number of bytes skipped is returned.

Parameters:

num The number of bytes to skip over.

Returns:

the total number of bytes skipped.

Exceptions:

IOException *(p. 1774)* if an I/O Error occurs.

The documentation for this class was generated from the following file:

- src/main/decaf/io/**DataInputStream.h**

6.201 decaf::io::DataOutput Class Reference

The **DataOutput** (p. 1265) interface provides for converting data from any of the C++ primitive types to a series of bytes and writing these bytes to a binary stream.

`#include <src/main/decaf/io/DataOutput.h>`

Public Member Functions

- virtual ~**DataOutput** ()
- virtual void **writeBoolean** (bool value)=0

  Writes a boolean to the underlying output stream as a 1-byte value.

- virtual void **writeByte** (unsigned char value)=0

  Writes out a byte to the underlying output stream as a 1-byte value.

- virtual void **writeShort** (short value)=0

  Writes a short to the underlying output stream as two bytes, high byte first.

- virtual void **writeUnsignedShort** (unsigned short value)=0

  Writes a unsigned short to the bytes message stream as a 2 byte value.

- virtual void **writeChar** (char value)=0

  Writes out a char to the underlying output stream as a one byte value If no exception is thrown, the counter written is incremented by 1.

- virtual void **writeInt** (int value)=0

  Writes an int to the underlying output stream as four bytes, high byte first.

- virtual void **writeLong** (long long value)=0

  Writes an 64 bit long to the underlying output stream as eight bytes, high byte first.

- virtual void **writeFloat** (float value)=0

  Converts the float argument to an int using the floatToIntBits method in class Float, and then writes that int value to the underlying output stream as a 4-byte quantity, high byte first.

- virtual void **writeDouble** (double value)=0

  Converts the double argument to a long using the doubleToLongBits method in class Double, and then writes that long value to the underlying output stream as an 8-byte quantity, high byte first.

- virtual void **writeBytes** (const std::string &value)=0

  Writes out the string to the underlying output stream as a sequence of bytes.

- virtual void **writeChars** (const std::string &value)=0

  Writes a string to the underlying output stream as a sequence of characters.

- virtual void **writeUTF** (const std::string &value)=0

  Writes out the string to the underlying output stream as a modeified UTF-8 encoded sequence of bytes.

6.201.1 Detailed Description

The **DataOutput** (p. 1265) interface provides for converting data from any of the C++ primitive types to a series of bytes and writing these bytes to a binary stream. There is also a facility for converting Strings into the Java standard modified UTF-8 format and writing the resulting series of bytes.

If a method in this interface encounters an error while writing it will throw an **IOException** (p. 1774).

See also:

DataInput (p. 1249)
DataOutputStream (p. 1270)

Since:

1.0

6.201.2 Constructor & Destructor Documentation

6.201.2.1 virtual decaf::io::DataOutput::~DataOutput () [virtual]

6.201.3 Member Function Documentation

6.201.3.1 virtual void decaf::io::DataOutput::writeBoolean (bool *value*) [pure virtual]

Writes a boolean to the underlying output stream as a 1-byte value. The value true is written out as the value (byte)1; the value false is written out as the value (byte)0. If no exception is thrown, the counter written is incremented by 1.

Parameters:

value The boolean to write as a byte (1=true, 0=false).

Exceptions:

IOException *(p. 1774)* if an I/O error is encountered.

6.201.3.2 virtual void decaf::io::DataOutput::writeByte (unsigned char *value*) [pure virtual]

Writes out a byte to the underlying output stream as a 1-byte value. If no exception is thrown, the counter written is incremented by 1.

Parameters:

value The unsigned char value to write.

Exceptions:

IOException *(p. 1774)* if an I/O error is encountered.

6.201.3.3 virtual void decaf::io::DataOutput::writeBytes (const std::string & *value*) [pure virtual]

Writes out the string to the underlying output stream as a sequence of bytes. Each character in the string is written out, in sequence, by discarding its high eight bits. If no exception is thrown, the counter written is incremented by the length of value. The value written does not include a trailing null as that is not part of the sequence of bytes, if the null is needed, then use the writeChars method.

Parameters:

value The vector of bytes to write.

Exceptions:

IOException *(*p. *1774)* if an I/O error is encountered.

6.201.3.4 virtual void decaf::io::DataOutput::writeChar (char *value*) [pure virtual]

Writes out a char to the underlying output stream as a one byte value If no exception is thrown, the counter written is incremented by 1.

Parameters:

value The signed char value to write.

Exceptions:

IOException *(*p. *1774)* if an I/O error is encountered.

6.201.3.5 virtual void decaf::io::DataOutput::writeChars (const std::string & *value*) [pure virtual]

Writes a string to the underlying output stream as a sequence of characters. Each character is written to the data output stream as if by the writeChar method. If no exception is thrown, the counter written is incremented by the length of value. The trailing NULL character is written by this method.

Parameters:

value The string value to write as raw bytes.

Exceptions:

IOException *(*p. *1774)* if an I/O error is encountered.

6.201.3.6 virtual void decaf::io::DataOutput::writeDouble (double *value*) [pure virtual]

Converts the double argument to a long using the doubleToLongBits method in class Double, and then writes that long value to the underlying output stream as an 8-byte quantity, high byte first. If no exception is thrown, the counter written is incremented by 8.

Parameters:

value The 64bit double value to write.

Exceptions:

IOException *(*p. ***1774****)* if an I/O error is encountered.

6.201.3.7 virtual void decaf::io::DataOutput::writeFloat (float *value*) [pure virtual]

Converts the float argument to an int using the floatToIntBits method in class Float, and then writes that int value to the underlying output stream as a 4-byte quantity, high byte first. If no exception is thrown, the counter written is incremented by 4.

Parameters:

value The 32bit floating point value to write.

Exceptions:

IOException *(*p. ***1774****)* if an I/O error is encountered.

6.201.3.8 virtual void decaf::io::DataOutput::writeInt (int *value*) [pure virtual]

Writes an int to the underlying output stream as four bytes, high byte first. If no exception is thrown, the counter written is incremented by 4.

Parameters:

value The signed integer value to write.

Exceptions:

IOException *(*p. ***1774****)* if an I/O error is encountered.

6.201.3.9 virtual void decaf::io::DataOutput::writeLong (long long *value*) [pure virtual]

Writes an 64 bit long to the underlying output stream as eight bytes, high byte first. If no exception is thrown, the counter written is incremented by 8.

Parameters:

value The signed 64bit long value to write.

Exceptions:

IOException *(*p. ***1774****)* if an I/O error is encountered.

6.201.3.10 virtual void decaf::io::DataOutput::writeShort (short *value*) [pure virtual]

Writes a short to the underlying output stream as two bytes, high byte first. If no exception is thrown, the counter written is incremented by 2.

Parameters:

value The signed short value to write.

Exceptions:

IOException *(*p. *1774)* if an I/O error is encountered.

6.201.3.11 virtual void decaf::io::DataOutput::writeUnsignedShort (unsigned short *value*) [pure virtual]

Writes a unsigned short to the bytes message stream as a 2 byte value.

Parameters:

value The unsigned short to write to the stream.

Exceptions:

IOException *(*p. *1774)* if an I/O error is encountered.

6.201.3.12 virtual void decaf::io::DataOutput::writeUTF (const std::string & *value*) [pure virtual]

Writes out the string to the underlying output stream as a modeified UTF-8 encoded sequence of bytes. The first two bytes written are indicate its encoded length followed by the rest of the string's characters encoded as modified UTF-8. The length represent the encoded length of the data not the actual length of the string.

Parameters:

value The string value value to write as modified UTF-8.

Exceptions:

IOException *(*p. *1774)* if an I/O error is encountered.

UTFDataFormatException *(*p. *3200)* if the encoded size if greater than 65535

The documentation for this class was generated from the following file:

- src/main/decaf/io/**DataOutput.h**

6.202 decaf::io::DataOutputStream Class Reference

A data output stream lets an application write primitive Java data types to an output stream in a portable way.

`#include <src/main/decaf/io/DataOutputStream.h>`Inheritance diagram for decaf::io::DataOutputStream:

Public Member Functions

- **DataOutputStream** (**OutputStream** ∗**outputStream**, bool **own**=false)

  Creates a new data output stream to write data to the specified underlying output stream.

- virtual ∼**DataOutputStream** ()
- virtual long long **size** () const

  Returns the current value of the counter written, the number of bytes written to this data output stream so far.

- virtual void **writeBoolean** (bool value)
- virtual void **writeByte** (unsigned char value)
- virtual void **writeShort** (short value)
- virtual void **writeUnsignedShort** (unsigned short value)
- virtual void **writeChar** (char value)
- virtual void **writeInt** (int value)
- virtual void **writeLong** (long long value)
- virtual void **writeFloat** (float value)
- virtual void **writeDouble** (double value)
- virtual void **writeBytes** (const std::string &value)

- virtual void **writeChars** (const std::string &value)

- virtual void **writeUTF** (const std::string &value)

Protected Member Functions

- virtual void **doWriteByte** (unsigned char value)
- virtual void **doWriteArrayBounded** (const unsigned char *__buffer__, int size, int offset, int length)

Protected Attributes

- long long **written**
- unsigned char **buffer** [8]

6.202.1 Detailed Description

A data output stream lets an application write primitive Java data types to an output stream in a portable way. An application can then use a data input stream to read the data back in.

6.202.2 Constructor & Destructor Documentation

6.202.2.1 decaf::io::DataOutputStream::DataOutputStream (OutputStream * *outputStream*, bool *own* = `false`)

Creates a new data output stream to write data to the specified underlying output stream.

Parameters:

outputStream a stream to wrap with this one.

own true if this objects owns the stream that it wraps.

6.202.2.2 virtual decaf::io::DataOutputStream::~DataOutputStream () `[virtual]`

6.202.3 Member Function Documentation

6.202.3.1 virtual void decaf::io::DataOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) `[protected, virtual]`

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

6.202.3.2 virtual void decaf::io::DataOutputStream::doWriteByte (unsigned char *value*) `[protected, virtual]`

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

6.202.3.3 virtual long long decaf::io::DataOutputStream::size () const [inline, virtual]

Returns the current value of the counter written, the number of bytes written to this data output stream so far. If the counter overflows, it will be wrapped to **decaf::lang::Long::MAX_VALUE** (p. 1967).

Returns:

the value of the written field.

6.202.3.4 virtual void decaf::io::DataOutputStream::writeBoolean (bool *value*) [virtual]

Referenced by activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalObjectArray().

6.202.3.5 virtual void decaf::io::DataOutputStream::writeByte (unsigned char *value*) [virtual]

6.202.3.6 virtual void decaf::io::DataOutputStream::writeBytes (const std::string & *value*) [virtual]

6.202.3.7 virtual void decaf::io::DataOutputStream::writeChar (char *value*) [virtual]

6.202.3.8 virtual void decaf::io::DataOutputStream::writeChars (const std::string & *value*) [virtual]

6.202.3.9 virtual void decaf::io::DataOutputStream::writeDouble (double *value*) [virtual]

6.202.3.10 virtual void decaf::io::DataOutputStream::writeFloat (float *value*) [virtual]

6.202.3.11 virtual void decaf::io::DataOutputStream::writeInt (int *value*) [virtual]

6.202.3.12 virtual void decaf::io::DataOutputStream::writeLong (long long *value*) [virtual]

6.202.3.13 virtual void decaf::io::DataOutputStream::writeShort (short *value*) [virtual]

Referenced by activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalObjectArray(), and activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectArray2().

6.202.3.14 virtual void decaf::io::DataOutputStream::writeUnsignedShort (unsigned short *value*) [virtual]

6.202.3.15 virtual void decaf::io::DataOutputStream::writeUTF (const std::string & *value*) [virtual]

6.202.4 Field Documentation

6.202.4.1 unsigned char decaf::io::DataOutputStream::buffer[8] [protected]

6.202.4.2 long long decaf::io::DataOutputStream::written [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/io/**DataOutputStream.h**

6.203 activemq::commands::DataResponse Class Reference

`#include <src/main/activemq/commands/DataResponse.h>`Inheritance diagram for activemq::commands::DataResponse:

Public Member Functions

- **DataResponse** ()
- virtual ~**DataResponse** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **DataResponse** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **DataStructure** > & **getData** () const
- virtual **Pointer**< **DataStructure** > & **getData** ()
- virtual void **setData** (const **Pointer**< **DataStructure** > &**data**)

Static Public Attributes

- static const unsigned char **ID_DATARESPONSE** = 32

Protected Attributes

- **Pointer**< **DataStructure** > **data**

6.203.1 Constructor & Destructor Documentation

6.203.1.1 activemq::commands::DataResponse::DataResponse ()

6.203.1.2 virtual activemq::commands::DataResponse::~DataResponse () [virtual]

6.203.2 Member Function Documentation

6.203.2.1 virtual DataResponse* activemq::commands::DataResponse::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Response** (p. 2592).

6.203.2.2 virtual void activemq::commands::DataResponse::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Response** (p. 2592).

6.203.2.3 virtual bool activemq::commands::DataResponse::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::Response** (p. 2592).

6.203.2.4 virtual Pointer<DataStructure>& activemq::commands::DataResponse::getData () [virtual]

6.203.2.5 virtual const Pointer<DataStructure>& activemq::commands::DataResponse::getData () const [virtual]

6.203.2.6 virtual unsigned char activemq::commands::DataResponse::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Response** (p. 2593).

6.203.2.7 virtual void activemq::commands::DataResponse::setData (const Pointer< DataStructure > & *data*) [virtual]

6.203.2.8 virtual std::string activemq::commands::DataResponse::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Response** (p. 2593).

6.203.3 Field Documentation

6.203.3.1 Pointer<DataStructure> activemq::commands::DataResponse::data [protected]

6.203.3.2 const unsigned char activemq::commands::DataResponse::ID_DATARESPONSE = 32 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**DataResponse.h**

6.204 activemq::wireformat::openwire::marshal::generated::DataRespons Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **DataResponseMarshaller** (p. 1277).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/DataResponseMarshaller.h>`Inheri
diagram for activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller:

Public Member Functions

- **DataResponseMarshaller** ()
- virtual ~**DataResponseMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.204.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **DataResponseMarshaller** (p. 1277). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.204.2 Constructor & Destructor Documentation

6.204.2.1 activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller::DataRespo () [inline]

6.204.2.2 virtual activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller::~DataResp () [inline, virtual]

6.204.3 Member Function Documentation

6.204.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.204.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller::getDataStruc () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.204.3.3 virtual void activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.204.3.4 virtual void activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller::looseUnmars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604).

6.204.3.5 virtual int activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604).

6.204.3.6 virtual void activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2605).

6.204.3.7 virtual void activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller::tightUnmars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2605).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**DataResponseMarshaller.h**

6.205 activemq::wireformat::openwire::marshal::DataStreamMarshaller Class Reference

Base class for all classes that **marshal** (p. 83) **commands** (p. 61) for Openwire.

`#include <src/main/activemq/wireformat/openwire/marshal/DataStreamMarshaller.h>`Inheritance diagram for activemq::wireformat::openwire::marshal::DataStreamMarshaller:

Public Member Functions

- virtual ~**DataStreamMarshaller** ()
- virtual unsigned char **getDataStructureType** () const =0

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual **commands::DataStructure** * **createObject** () const =0

  Creates a new instance of the class that this class is a marshaling director for.

- virtual int **tightMarshal1** (**OpenWireFormat** *format, **commands::DataStructure** *command, **utils::BooleanStream** *bs)=0

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *format, **commands::DataStructure** *command, **decaf::io::DataOutputStream** *ds, **utils::BooleanStream** *bs)=0

  Tight Marhsal to the given stream.

- virtual void **tightUnmarshal** (**OpenWireFormat** *format, **commands::DataStructure** *command, **decaf::io::DataInputStream** *dis, **utils::BooleanStream** *bs)=0

  Tight Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *format, **commands::DataStructure** *command, **decaf::io::DataOutputStream** *ds)=0

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *format, **commands::DataStructure** *command, **decaf::io::DataInputStream** *dis)=0

  Loose Un-marhsal to the given stream.

6.205.1 Detailed Description

Base class for all classes that **marshal** (p. 83) **commands** (p. 61) for Openwire.

6.205.2 Constructor & Destructor Documentation

6.205.2.1 virtual activemq::wireformat::openwire::marshal::DataStreamMarshaller::~DataStreamMarshaller () [virtual]

6.205.3 Member Function Documentation

6.205.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::DataStreamMarshaller::createObject () const [pure virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller** (p. 210), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 229), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 356), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 367), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 384), **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 424), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 484), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 501), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 509), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 518), **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 526), **activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller** (p. 714), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller** (p. 726), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller** (p. 1097), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller** (p. 1105), **activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller** (p. 1120), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller** (p. 1131), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller** (p. 1164), **activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller** (p. 1173), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller** (p. 1186), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller** (p. 1194), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1236), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1278), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller** (p. 1381), **activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller** (p. 1396), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1457), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller** (p. 1553), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1744), **activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller** (p. 1795), **activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller** (p. 1804), **activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller** (p. 1811), **activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller** (p. 1818), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller** (p. 1825), **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1839), **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1908), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller**

(p. 2110), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller**
(p. 2143), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller**
(p. 2152), **activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller**
(p. 2167), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller**
(p. 2203), **activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller**
(p. 2238), **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller**
(p. 2346), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller**
(p. 2446), **activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller**
(p. 2458), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller**
(p. 2467), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller**
(p. 2562), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller**
(p. 2571), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller**
(p. 2579), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller**
(p. 2603), **activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller**
(p. 2685), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller**
(p. 2693), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller**
(p. 2738), **activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller**
(p. 2935), **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller**
(p. 3095), **activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller**
(p. 3228), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller**
(p. 3271).

6.205.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::DataStreamMarshaller::getDataStructureType () const [pure virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller**
(p. 210), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller**
(p. 229), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller**
(p. 356), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller**
(p. 367), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller**
(p. 384), **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller**
(p. 424), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller**
(p. 484), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller**
(p. 501), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller**
(p. 509), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller**
(p. 518), **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller**
(p. 526), **activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller**
(p. 714), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller**
(p. 726), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller**
(p. 1097), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller**
(p. 1105), **activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller**
(p. 1120), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller**
(p. 1131), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller**
(p. 1164), **activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller**
(p. 1173), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller**
(p. 1186), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller**
(p. 1194), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller**

(p. 1236), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller**
(p. 1278), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller**
(p. 1381), **activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller**
(p. 1396), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller**
(p. 1457), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller**
(p. 1553), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller**
(p. 1744), **activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller**
(p. 1795), **activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller**
(p. 1804), **activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller**
(p. 1811), **activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller**
(p. 1818), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller**
(p. 1825), **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller**
(p. 1839), **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller**
(p. 1908), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller**
(p. 2110), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller**
(p. 2143), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller**
(p. 2152), **activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller**
(p. 2167), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller**
(p. 2203), **activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller**
(p. 2238), **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller**
(p. 2346), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller**
(p. 2446), **activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller**
(p. 2458), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller**
(p. 2467), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller**
(p. 2562), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller**
(p. 2571), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller**
(p. 2579), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller**
(p. 2603), **activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller**
(p. 2685), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller**
(p. 2693), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller**
(p. 2738), **activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller**
(p. 2935), **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller**
(p. 3095), **activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller**
(p. 3228), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller**
(p. 3271).

6.205.3.3 virtual void activemq::wireformat::openwire::marshal::DataStreamMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [pure virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller** (p. 210), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 229), **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller** (p. 332), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 356), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 367), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 384), **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 424), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 484), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller** (p. 493), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 501), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 509), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 518), **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 526), **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637), **activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller** (p. 714), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller** (p. 726), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller** (p. 1097), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller** (p. 1105), **activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller** (p. 1120), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller** (p. 1131), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller** (p. 1164), **activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller** (p. 1173), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller** (p. 1186), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller** (p. 1194), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1236), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1278), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller** (p. 1381), **activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller** (p. 1396), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1457), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller** (p. 1553), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1744), **activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller** (p. 1795), **activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller** (p. 1804), **activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller** (p. 1811), **activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller** (p. 1818), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller** (p. 1825), **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1839), **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1908), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller** (p. 2110), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller** (p. 2143), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller** (p. 2152), **activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller** (p. 2167), **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller** (p. 2203), **activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller** (p. 2238), **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2346), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller** (p. 2446), **activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller** (p. 2458), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller** (p. 2467), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller** (p. 2562), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller** (p. 2571), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller** (p. 2579), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603), **activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller**

(p. 2685), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller**
(p. 2693), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller**
(p. 2738), **activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller**
(p. 2935), **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller**
(p. 3087), **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller**
(p. 3095), **activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller**
(p. 3228), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller**
(p. 3271).

6.205.3.4 virtual void activemq::wireformat::openwire::marshal::DataStreamMarshaller::looseUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [pure virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller**
(p. 211), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller**
(p. 230), **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller**
(p. 332), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller**
(p. 357), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller**
(p. 368), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller**
(p. 385), **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller**
(p. 425), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller**
(p. 485), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller**
(p. 493), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller**
(p. 502), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller**
(p. 510), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller**
(p. 519), **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller**
(p. 527), **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller**
(p. 638), **activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller**
(p. 715), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller**
(p. 727), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller**
(p. 1098), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller**
(p. 1106), **activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller**
(p. 1121), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller**
(p. 1132), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller**
(p. 1165), **activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller**
(p. 1174), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller**
(p. 1187), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller**
(p. 1195), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller**
(p. 1237), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller**
(p. 1279), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller**

(p. 1382), **activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller** (p. 1397), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1458), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller** (p. 1554), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1745), **activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller** (p. 1796), **activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller** (p. 1805), **activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller** (p. 1812), **activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller** (p. 1819), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller** (p. 1826), **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1840), **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1909), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller** (p. 2111), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller** (p. 2144), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller** (p. 2153), **activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller** (p. 2168), **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2172), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller** (p. 2204), **activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller** (p. 2239), **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2347), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller** (p. 2447), **activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller** (p. 2459), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller** (p. 2468), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller** (p. 2563), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller** (p. 2572), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller** (p. 2580), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604), **activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller** (p. 2686), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller** (p. 2694), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller** (p. 2739), **activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller** (p. 2936), **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3087), **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller** (p. 3096), **activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller** (p. 3229), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller** (p. 3272).

6.205.3.5 virtual int activemq::wireformat::openwire::marshal::DataStreamMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [pure virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller** (p. 211), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 230), **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller** (p. 333), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 357), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 368), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 385), **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 425), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 485), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller** (p. 494), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 502), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 510), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 519), **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 527), **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639), **activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller** (p. 715), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller** (p. 727), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller** (p. 1098), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller** (p. 1106), **activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller** (p. 1121), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller** (p. 1132), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller** (p. 1165), **activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller** (p. 1174), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller** (p. 1187), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller** (p. 1195), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1237), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1279), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller** (p. 1382), **activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller** (p. 1397), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1458), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller** (p. 1554), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1745), **activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller** (p. 1796), **activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller** (p. 1805), **activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller** (p. 1812), **activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller** (p. 1819), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller** (p. 1826), **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1840), **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1909), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller** (p. 2111), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller** (p. 2144), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller** (p. 2153), **activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller** (p. 2168), **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2173), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller** (p. 2204), **activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller** (p. 2239), **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2347), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller** (p. 2447), **activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller** (p. 2459), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller** (p. 2468), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller** (p. 2563), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller** (p. 2572), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller** (p. 2580), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604), **activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller**

(p. 2686), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller** (p. 2694), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller** (p. 2739), **activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller** (p. 2936), **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3088), **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller** (p. 3096), **activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller** (p. 3229), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller** (p. 3272).

6.205.3.6 virtual void activemq::wireformat::openwire::marshal::DataStreamMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [pure virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller** (p. 211), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 230), **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller** (p. 333), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 357), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 368), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 385), **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 425), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 485), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller** (p. 494), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 502), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 510), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 519), **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 527), **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640), **activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller** (p. 715), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller** (p. 727), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller** (p. 1098), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller** (p. 1106), **activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller** (p. 1121), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller** (p. 1132), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller** (p. 1165), **activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller** (p. 1174), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller** (p. 1187), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller** (p. 1195), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller**

(p. 1237), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller**
(p. 1279), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller**
(p. 1382), **activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller**
(p. 1397), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller**
(p. 1458), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller**
(p. 1554), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller**
(p. 1745), **activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller**
(p. 1796), **activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller**
(p. 1805), **activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller**
(p. 1812), **activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller**
(p. 1819), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller**
(p. 1826), **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller**
(p. 1840), **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller**
(p. 1909), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller**
(p. 2111), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller**
(p. 2144), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller**
(p. 2153), **activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller**
(p. 2168), **activemq::wireformat::openwire::marshal::generated::MessageMarshaller**
(p. 2173), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller**
(p. 2204), **activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller**
(p. 2239), **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller**
(p. 2348), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller**
(p. 2447), **activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller**
(p. 2459), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller**
(p. 2468), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller**
(p. 2563), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller**
(p. 2572), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller**
(p. 2580), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller**
(p. 2605), **activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller**
(p. 2686), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller**
(p. 2694), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller**
(p. 2739), **activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller**
(p. 2936), **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller**
(p. 3088), **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller**
(p. 3096), **activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller**
(p. 3229), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller**
(p. 3272).

6.205.3.7 virtual void activemq::wireformat::openwire::marshal::DataStreamMarshaller::tightUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [pure virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller** (p. 212), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 231), **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller** (p. 334), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 358), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 369), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 386), **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller** (p. 426), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 486), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller** (p. 495), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller** (p. 503), **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller** (p. 511), **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 520), **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller** (p. 528), **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641), **activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller** (p. 716), **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller** (p. 728), **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller** (p. 1099), **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller** (p. 1107), **activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller** (p. 1122), **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller** (p. 1133), **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller** (p. 1166), **activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller** (p. 1175), **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller** (p. 1188), **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller** (p. 1196), **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1238), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1280), **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller** (p. 1383), **activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller** (p. 1398), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1459), **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller** (p. 1555), **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1746), **activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller** (p. 1797), **activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller** (p. 1806), **activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller** (p. 1813), **activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller** (p. 1820), **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller** (p. 1827), **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1841), **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1910), **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller** (p. 2112), **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller** (p. 2145), **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller** (p. 2154), **activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller** (p. 2169), **activemq::wireformat::openwire::marshal::generated::MessageMarshaller** (p. 2174), **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller** (p. 2205), **activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller** (p. 2240), **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2348), **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller** (p. 2448), **activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller** (p. 2460), **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller** (p. 2469), **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller**

(p. 2564), **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller**
(p. 2573), **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller**
(p. 2581), **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller**
(p. 2605), **activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller**
(p. 2687), **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller**
(p. 2695), **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller**
(p. 2740), **activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller**
(p. 2937), **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller**
(p. 3088), **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller**
(p. 3097), **activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller**
(p. 3230), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller**
(p. 3273).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/**DataStreamMarshaller.h**

6.206 activemq::commands::DataStructure Class Reference

`#include <src/main/activemq/commands/DataStructure.h>`Inheritance diagram for activemq::commands::DataStructure:

Public Member Functions

- virtual ~**DataStructure** ()
- virtual unsigned char **getDataStructureType** () const =0

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **DataStructure** * **cloneDataStructure** () const =0

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)=0

  Copy the contents of the passed object into this objects members, overwriting any existing data.

- virtual std::string **toString** () const =0

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const =0

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

6.206.1 Constructor & Destructor Documentation

6.206.1.1 virtual activemq::commands::DataStructure::~DataStructure () [inline, virtual]

6.206.2 Member Function Documentation

6.206.2.1 virtual DataStructure* activemq::commands::DataStructure::cloneDataStructure () const [pure virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implemented in **activemq::commands::ActiveMQBlobMessage** (p. 205), **activemq::commands::ActiveMQBytesMessage** (p. 216), **activemq::commands::ActiveMQDestination** (p. 323), **activemq::commands::ActiveMQMapMessage** (p. 344), **activemq::commands::ActiveMQMessage** (p. 360), **activemq::commands::ActiveMQObjectMessage**

(p. 380), **activemq::commands::ActiveMQQueue** (p. 416), **activemq::commands::ActiveMQStreamMessage** (p. 472), **activemq::commands::ActiveMQTempDestination** (p. 488), **activemq::commands::ActiveMQTempQueue** (p. 497), **activemq::commands::ActiveMQTempTopic** (p. 505), **activemq::commands::ActiveMQTextMessage** (p. 514), **activemq::commands::ActiveMQTopic** (p. 522), **activemq::commands::BooleanExpression** (p. 695), **activemq::commands::BrokerError** (p. 704), **activemq::commands::BrokerId** (p. 711), **activemq::commands::BrokerInfo** (p. 718), **activemq::commands::ConnectionControl** (p. 1091), **activemq::commands::ConnectionError** (p. 1101), **activemq::commands::ConnectionId** (p. 1116), **activemq::commands::ConnectionInfo** (p. 1124), **activemq::commands::ConsumerControl** (p. 1159), **activemq::commands::ConsumerId** (p. 1168), **activemq::commands::ConsumerInfo** (p. 1178), **activemq::commands::ControlCommand** (p. 1191), **activemq::commands::DataArrayResponse** (p. 1233), **activemq::commands::DataResponse** (p. 1275), **activemq::commands::DestinationInfo** (p. 1376), **activemq::commands::DiscoveryEvent** (p. 1393), **activemq::commands::ExceptionResponse** (p. 1454), **activemq::commands::FlushCommand** (p. 1550), **activemq::commands::IntegerResponse** (p. 1741), **activemq::commands::JournalQueueAck** (p. 1792), **activemq::commands::JournalTopicAck** (p. 1799), **activemq::commands::JournalTrace** (p. 1807), **activemq::commands::JournalTransaction** (p. 1815), **activemq::commands::KeepAliveInfo** (p. 1821), **activemq::commands::LastPartialCommand** (p. 1836), **activemq::commands::LocalTransactionId** (p. 1904), **activemq::commands::Message** (p. 2063), **activemq::commands::MessageAck** (p. 2104), **activemq::commands::MessageDispatch** (p. 2133), **activemq::commands::MessageDispatchNotification** (p. 2147), **activemq::commands::MessageId** (p. 2162), **activemq::commands::MessagePull** (p. 2198), **activemq::commands::NetworkBridgeFilter** (p. 2235), **activemq::commands::PartialCommand** (p. 2343), **activemq::commands::ProducerAck** (p. 2442), **activemq::commands::ProducerId** (p. 2453), **activemq::commands::ProducerInfo** (p. 2462), **activemq::commands::RemoveInfo** (p. 2558), **activemq::commands::RemoveSubscriptionInfo** (p. 2566), **activemq::commands::ReplayCommand** (p. 2575), **activemq::commands::Response** (p. 2592), **activemq::commands::SessionId** (p. 2681), **activemq::commands::SessionInfo** (p. 2689), **activemq::commands::ShutdownInfo** (p. 2734), **activemq::commands::SubscriptionInfo** (p. 2931), **activemq::commands::TransactionId** (p. 3083), **activemq::commands::TransactionInfo** (p. 3091), **activemq::commands::WireFormatInfo** (p. 3220), and **activemq::commands::XATransactionId** (p. 3266).

6.206.2.2 virtual void activemq::commands::DataStructure::copyDataStructure (const DataStructure * *src*) [pure virtual]

Copy the contents of the passed object into this objects members, overwriting any existing data.

Returns:

src - Source Object

6.206.2.3 virtual bool activemq::commands::DataStructure::equals (const DataStructure * *value*) const [pure virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

6.206.2.4 virtual unsigned char activemq::commands::DataStructure::getDataStructureType () const [pure virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implemented in **activemq::commands::ActiveMQBlobMessage** (p. 206), **activemq::commands::ActiveMQBytesMessage** (p. 217), **activemq::commands::ActiveMQDestination** (p. 325), **activemq::commands::ActiveMQMapMessage** (p. 346), **activemq::commands::ActiveMQMessage** (p. 360), **activemq::commands::ActiveMQObjectMessage** (p. 381), **activemq::commands::ActiveMQQueue** (p. 417), **activemq::commands::ActiveMQStreamMessage** (p. 472), **activemq::commands::ActiveMQTempDestination** (p. 489), **activemq::commands::ActiveMQTempQueue** (p. 498), **activemq::commands::ActiveMQTempTopic** (p. 506), **activemq::commands::ActiveMQTextMessage** (p. 514), **activemq::commands::ActiveMQTopic** (p. 523), **activemq::commands::BrokerError** (p. 705), **activemq::commands::BrokerId** (p. 711), **activemq::commands::BrokerInfo** (p. 720), **activemq::commands::ConnectionControl** (p. 1092), **activemq::commands::ConnectionError** (p. 1101), **activemq::commands::ConnectionId** (p. 1117), **activemq::commands::ConnectionInfo** (p. 1126), **activemq::commands::ConsumerControl** (p. 1160), **activemq::commands::ConsumerId** (p. 1169), **activemq::commands::ConsumerInfo** (p. 1179), **activemq::commands::ControlCommand** (p. 1191), **activemq::commands::DataArrayResponse** (p. 1233), **activemq::commands::DataResponse** (p. 1275), **activemq::commands::DestinationInfo** (p. 1377), **activemq::commands::DiscoveryEvent** (p. 1393), **activemq::commands::ExceptionResponse** (p. 1454), **activemq::commands::FlushCommand** (p. 1550), **activemq::commands::IntegerResponse** (p. 1741), **activemq::commands::JournalQueueAck** (p. 1792), **activemq::commands::JournalTopicAck** (p. 1799), **activemq::commands::JournalTrace** (p. 1808), **activemq::commands::JournalTransaction** (p. 1815), **activemq::commands::KeepAliveInfo** (p. 1822), **activemq::commands::LastPartialCommand** (p. 1837), **activemq::commands::LocalTransactionId** (p. 1905), **activemq::commands::Message** (p. 2066), **activemq::commands::MessageAck** (p. 2105), **activemq::commands::MessageDispatch** (p. 2134), **activemq::commands::MessageDispatchNotification** (p. 2148), **activemq::commands::MessageId** (p. 2163), **activemq::commands::MessagePull**

(p. 2199), **activemq::commands::NetworkBridgeFilter** (p. 2235), **activemq::commands::PartialCommand** (p. 2343), **activemq::commands::ProducerAck** (p. 2442), **activemq::commands::ProducerId** (p. 2454), **activemq::commands::ProducerInfo** (p. 2463), **activemq::commands::RemoveInfo** (p. 2558), **activemq::commands::RemoveSubscriptionInfo** (p. 2567), **activemq::commands::ReplayCommand** (p. 2575), **activemq::commands::Response** (p. 2593), **activemq::commands::SessionId** (p. 2682), **activemq::commands::SessionInfo** (p. 2689), **activemq::commands::ShutdownInfo** (p. 2735), **activemq::commands::SubscriptionInfo** (p. 2931), **activemq::commands::TransactionId** (p. 3084), **activemq::commands::TransactionInfo** (p. 3091), **activemq::commands::WireFormatInfo** (p. 3220), and **activemq::commands::XATransactionId** (p. 3267).

6.206.2.5 virtual std::string activemq::commands::DataStructure::toString () const [pure virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Implemented in **activemq::commands::ActiveMQBlobMessage** (p. 207), **activemq::commands::ActiveMQBytesMessage** (p. 223), **activemq::commands::ActiveMQDestination** (p. 329), **activemq::commands::ActiveMQMapMessage** (p. 353), **activemq::commands::ActiveMQMessage** (p. 361), **activemq::commands::ActiveMQObjectMessage** (p. 382), **activemq::commands::ActiveMQQueue** (p. 418), **activemq::commands::ActiveMQStreamMessage** (p. 478), **activemq::commands::ActiveMQTempDestination** (p. 490), **activemq::commands::ActiveMQTempQueue** (p. 499), **activemq::commands::ActiveMQTempTopic** (p. 507), **activemq::commands::ActiveMQTextMessage** (p. 516), **activemq::commands::ActiveMQTopic** (p. 524), **activemq::commands::BaseCommand** (p. 635), **activemq::commands::BaseDataStructure** (p. 665), **activemq::commands::BooleanExpression** (p. 696), **activemq::commands::BrokerId** (p. 712), **activemq::commands::BrokerInfo** (p. 722), **activemq::commands::Command** (p. 1018), **activemq::commands::ConnectionControl** (p. 1094), **activemq::commands::ConnectionError** (p. 1102), **activemq::commands::ConnectionId** (p. 1117), **activemq::commands::ConnectionInfo** (p. 1128), **activemq::commands::ConsumerControl** (p. 1161), **activemq::commands::ConsumerId** (p. 1170), **activemq::commands::ConsumerInfo** (p. 1181), **activemq::commands::ControlCommand** (p. 1192), **activemq::commands::DataArrayResponse** (p. 1234), **activemq::commands::DataResponse** (p. 1276), **activemq::commands::DestinationInfo** (p. 1378), **activemq::commands::DiscoveryEvent** (p. 1394), **activemq::commands::ExceptionResponse** (p. 1455), **activemq::commands::FlushCommand** (p. 1551), **activemq::commands::IntegerResponse** (p. 1742), **activemq::commands::JournalQueueAck** (p. 1793), **activemq::commands::JournalTopicAck** (p. 1801), **activemq::commands::JournalTrace** (p. 1808), **activemq::commands::JournalTransaction** (p. 1816), **activemq::commands::KeepAliveInfo** (p. 1822), **activemq::commands::LastPartialCommand** (p. 1837), **activemq::commands::LocalTransactionId** (p. 1906), **activemq::commands::Message** (p. 2073), **activemq::commands::MessageAck**

(p. 2107), **activemq::commands::MessageDispatch** (p. 2135), **activemq::commands::MessageDispatchNotification** (p. 2149), **activemq::commands::MessageId** (p. 2164), **activemq::commands::MessagePull** (p. 2200), **activemq::commands::NetworkBridgeFilter** (p. 2236), **activemq::commands::PartialCommand** (p. 2344), **activemq::commands::ProducerAck** (p. 2443), **activemq::commands::ProducerId** (p. 2455), **activemq::commands::ProducerInfo** (p. 2464), **activemq::commands::RemoveInfo** (p. 2559), **activemq::commands::RemoveSubscriptionInfo** (p. 2568), **activemq::commands::ReplayCommand** (p. 2576), **activemq::commands::Response** (p. 2593), **activemq::commands::SessionId** (p. 2683), **activemq::commands::SessionInfo** (p. 2690), **activemq::commands::ShutdownInfo** (p. 2735), **activemq::commands::SubscriptionInfo** (p. 2932), **activemq::commands::TransactionId** (p. 3085), **activemq::commands::TransactionInfo** (p. 3092), **activemq::commands::WireFormatInfo** (p. 3225), and **activemq::commands::XATransactionId** (p. 3269).

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**DataStructure.h**

6.207 decaf::util::Date Class Reference

Wrapper class around a time value in milliseconds.

`#include <src/main/decaf/util/Date.h>`Inheritance diagram for decaf::util::Date:

Public Member Functions

- **Date** ()
  Default constructor - sets time to the current System time, rounded to the nearest millisecond.
- **Date** (long long milliseconds)
  Constructs the date with a given time value.
- **Date** (const **Date** &source)
  Copy constructor.
- **Date** & **operator**= (const **Date** &value)
  *Assigns the value of one **Date** (p. 1298) object to another.*
- virtual ~**Date** ()
- long long **getTime** () const
  Gets the underlying time.
- void **setTime** (long long milliseconds)
  Sets the underlying time.
- bool **after** (const **Date** &when) const
  Determines whether or not this date falls after the specified time.
- bool **before** (const **Date** &when) const
  Determines whether or not this date falls before the specified time.
- std::string **toString** () const
  *Converts this **Date** (p. 1298) object to a String of the form:.*
- virtual int **compareTo** (const **Date** &value) const
- virtual bool **equals** (const **Date** &value) const
- virtual bool **operator**== (const **Date** &value) const
- virtual bool **operator**< (const **Date** &value) const

6.207.1 Detailed Description

Wrapper class around a time value in milliseconds. This class is comparable to Java's java.util.Date class.

Since:

1.0

6.207.2 Constructor & Destructor Documentation

6.207.2.1 decaf::util::Date::Date ()

Default constructor - sets time to the current System time, rounded to the nearest millisecond.

6.207.2.2 decaf::util::Date::Date (long long *milliseconds*)

Constructs the date with a given time value.

Parameters:

milliseconds The time in milliseconds;

6.207.2.3 decaf::util::Date::Date (const Date & *source*)

Copy constructor.

Parameters:

source The **Date** (p. 1298) instance to copy into this one.

6.207.2.4 virtual decaf::util::Date::~Date () [virtual]

6.207.3 Member Function Documentation

6.207.3.1 bool decaf::util::Date::after (const Date & *when*) const

Determines whether or not this date falls after the specified time.

Parameters:

when The date to compare

Returns:

true if this date falls after when.

6.207.3.2 bool decaf::util::Date::before (const Date & *when*) const

Determines whether or not this date falls before the specified time.

Parameters:

when The date to compare

Returns:

true if this date falls before when.

6.207.3.3 virtual int decaf::util::Date::compareTo (const Date & *value*) const [virtual]

6.207.3.4 virtual bool decaf::util::Date::equals (const Date & *value*) const [virtual]

6.207.3.5 long long decaf::util::Date::getTime () const

Gets the underlying time.

Returns:

The underlying time value in milliseconds.

6.207.3.6 virtual bool decaf::util::Date::operator< (const Date & *value*) const [virtual]

6.207.3.7 Date& decaf::util::Date::operator= (const Date & *value*)

Assigns the value of one **Date** (p. 1298) object to another.

Parameters:

value The value to be copied into this **Date** (p. 1298) object.

Returns:

reference to this object with the newly assigned value.

6.207.3.8 virtual bool decaf::util::Date::operator== (const Date & *value*) const [virtual]

6.207.3.9 void decaf::util::Date::setTime (long long *milliseconds*)

Sets the underlying time.

Parameters:

milliseconds The underlying time value in milliseconds.

6.207.3.10 std::string decaf::util::Date::toString () const

Converts this **Date** (p. 1298) object to a String of the form:. dow mon dd hh:mm:ss zzz yyyy where:

- dow is the day of the week (Sun, Mon, Tue, Wed, Thu, Fri, Sat).
- mon is the month (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec).
- dd is the day of the month (01 through 31), as two decimal digits.
- hh is the hour of the day (00 through 23), as two decimal digits.

- mm is the minute within the hour (00 through 59), as two decimal digits.
- ss is the second within the minute (00 through 61, as two decimal digits.
- zzz is the time zone (and may reflect daylight saving time). Standard time zone abbreviations include those recognized by the method parse. If time zone information is not available, then zzz is empty - that is, it consists of no characters at all.
- yyyy is the year, as four decimal digits.

Returns:

the String representation of the **Date** (p. 1298) object.

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Date.h**

6.208 decaf::internal::DecafRuntime Class Reference

Handles APR initialization and termination.

`#include <src/main/decaf/internal/DecafRuntime.h>`Inheritance diagram for decaf::internal::DecafRuntime:

Public Member Functions

- **DecafRuntime** ()

  Initializes the APR Runtime for a library.

- virtual ~**DecafRuntime** ()

  Terminates the APR Runtime for a library.

- apr_pool_t * **getGlobalPool** () const

  Grants access to the Global APR Pool instance that should be used when creating new threads.

- **decaf::util::concurrent::Mutex** * **getGlobalLock** ()

  Gets a pointer to the Decaf Runtime's Global Lock object, this can be used by Decaf APIs to synchronize around certain actions such as adding or acquiring a resource that must be Thread safe.

6.208.1 Detailed Description

Handles APR initialization and termination.

6.208.2 Constructor & Destructor Documentation

6.208.2.1 decaf::internal::DecafRuntime::DecafRuntime ()

Initializes the APR Runtime for a library.

6.208.2.2 virtual decaf::internal::DecafRuntime::~DecafRuntime () [virtual]

Terminates the APR Runtime for a library.

6.208.3 Member Function Documentation

6.208.3.1 decaf::util::concurrent::Mutex* decaf::internal::DecafRuntime::getGlobalLock ()

Gets a pointer to the Decaf Runtime's Global Lock object, this can be used by Decaf APIs to synchronize around certain actions such as adding or acquiring a resource that must be Thread safe. The pointer returned is owned by the Decaf runtime and should not be deleted or copied by the caller.

Returns:

a pointer to the Decaf Runtime's global Lock instance.

6.208.3.2 apr_pool_t* decaf::internal::DecafRuntime::getGlobalPool () const

Grants access to the Global APR Pool instance that should be used when creating new threads.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/**DecafRuntime.h**

6.209 activemq::threads::DedicatedTaskRunner Class Reference

`#include <src/main/activemq/threads/DedicatedTaskRunner.h>`Inheritance diagram for activemq::threads::DedicatedTaskRunner:

Public Member Functions

- **DedicatedTaskRunner** (**Task** *task)
- virtual ~**DedicatedTaskRunner** ()
- virtual void **start** ()

  Starts the task runner.

- virtual bool **isStarted** () const

  true if the start method has been called.

- virtual void **shutdown** (long long timeout)

  Shutdown after a timeout, does not guarantee that the task's iterate method has completed and the thread halted.

- virtual void **shutdown** ()

  Shutdown once the task has finished and the TaskRunner's thread has exited.

- virtual void **wakeup** ()

  *Signal the **TaskRunner** (p. 2974) to wakeup and execute another iteration cycle on the task, the **Task** (p. 2973) instance will be run until its iterate method has returned false indicating it is done.*

Protected Member Functions

- virtual void **run** ()

  Run method - called by the Thread class in the context of the thread.

6.209.1 Constructor & Destructor Documentation

6.209.1.1 activemq::threads::DedicatedTaskRunner::DedicatedTaskRunner (Task * *task*)

6.209.1.2 virtual activemq::threads::DedicatedTaskRunner::~DedicatedTaskRunner () `[virtual]`

6.209.2 Member Function Documentation

6.209.2.1 virtual bool activemq::threads::DedicatedTaskRunner::isStarted () const `[virtual]`

true if the start method has been called.

Implements **activemq::threads::TaskRunner** (p. 2974).

6.209.2.2 virtual void activemq::threads::DedicatedTaskRunner::run () [protected, virtual]

Run method - called by the Thread class in the context of the thread.

Implements **decaf::lang::Runnable** (p. 2607).

6.209.2.3 virtual void activemq::threads::DedicatedTaskRunner::shutdown () [virtual]

Shutdown once the task has finished and the TaskRunner's thread has exited.

Implements **activemq::threads::TaskRunner** (p. 2974).

6.209.2.4 virtual void activemq::threads::DedicatedTaskRunner::shutdown (long long *timeout*) [virtual]

Shutdown after a timeout, does not guarantee that the task's iterate method has completed and the thread halted.

Parameters:

timeout - Time in Milliseconds to wait for the task to stop.

Implements **activemq::threads::TaskRunner** (p. 2975).

6.209.2.5 virtual void activemq::threads::DedicatedTaskRunner::start () [virtual]

Starts the task runner. Prior to call this method tasks can be added to a Runner, but no executions will occur. The start method will create the background Thread(s) which do the work for this task runner.

Implements **activemq::threads::TaskRunner** (p. 2975).

6.209.2.6 virtual void activemq::threads::DedicatedTaskRunner::wakeup () [virtual]

Signal the **TaskRunner** (p. 2974) to wakeup and execute another iteration cycle on the task, the **Task** (p. 2973) instance will be run until its iterate method has returned false indicating it is done.

Implements **activemq::threads::TaskRunner** (p. 2975).

The documentation for this class was generated from the following file:

- src/main/activemq/threads/**DedicatedTaskRunner.h**

6.210 decaf::internal::security::provider::DefaultMessageDigestProviderS Class Reference

Decaf's Default Message Digest Security **provider** (p. 104) used to create instances of the built-in Message Digest algorithm SPI classes.

`#include <src/main/decaf/internal/security/provider/DefaultMessageDigestProviderService.h>`Inherit diagram for decaf::internal::security::provider::DefaultMessageDigestProviderService:

Public Member Functions

- **DefaultMessageDigestProviderService** (const **decaf::security::Provider** *provider, const std::string &algorithmName)
- virtual ~**DefaultMessageDigestProviderService** ()
- virtual **decaf::security::SecuritySpi** * **newInstance** ()

  Return a new instance of the implementation described by this service.

6.210.1 Detailed Description

Decaf's Default Message Digest Security **provider** (p. 104) used to create instances of the built-in Message Digest algorithm SPI classes.

Since:

1.0

6.210.2 Constructor & Destructor Documentation

6.210.2.1 decaf::internal::security::provider::DefaultMessageDigestProviderService::DefaultMessageI (const decaf::security::Provider * *provider*, const std::string & *algorithmName*)

6.210.2.2 virtual decaf::internal::security::provider::DefaultMessageDigestProviderService::~DefaultMessag () `[virtual]`

6.210.3 Member Function Documentation

6.210.3.1 virtual decaf::security::SecuritySpi* decaf::internal::security::provider::DefaultMessageDigestProviderService::newInstance () `[virtual]`

Return a new instance of the implementation described by this service. The **security** (p. 103) **provider** (p. 104) framework uses this method to construct implementations. Applications will typically not need to call it.

Returns:

a new instance of the SecuritySpi provided by this ProviderService.

Implements **decaf::security::ProviderService** (p. 2491).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/security/provider/**DefaultMessageDigestProviderService.h**

6.211 activemq::core::policies::DefaultPrefetchPolicy Class Reference

`#include <src/main/activemq/core/policies/DefaultPrefetchPolicy.h>`Inheritance diagram for activemq::core::policies::DefaultPrefetchPolicy:

Public Member Functions

- **DefaultPrefetchPolicy** ()
- virtual ~**DefaultPrefetchPolicy** ()
- virtual void **setDurableTopicPrefetch** (int value)

  Sets the amount of prefetched messages for a Durable Topic.

- virtual int **getDurableTopicPrefetch** () const

  Gets the amount of messages to prefetch for a Durable Topic.

- virtual void **setQueuePrefetch** (int value)

  Sets the amount of prefetched messages for a Queue.

- virtual int **getQueuePrefetch** () const

  Gets the amount of messages to prefetch for a Queue.

- virtual void **setQueueBrowserPrefetch** (int value)

  Sets the amount of prefetched messages for a Queue Browser.

- virtual int **getQueueBrowserPrefetch** () const

  Gets the amount of messages to prefetch for a Queue Browser.

- virtual void **setTopicPrefetch** (int value)

  Sets the amount of prefetched messages for a Topic.

- virtual int **getTopicPrefetch** () const

  Gets the amount of messages to prefetch for a Topic.

- virtual int **getMaxPrefetchLimit** (int value) const

  Given a requested value for a new prefetch limit, compare it against some max prefetch value and return either the requested value or the maximum allowable value for prefetch.

- virtual **PrefetchPolicy** * **clone** () const

  Clone the Policy and return a new pointer to that clone.

Static Public Attributes

- static int **MAX_PREFETCH_SIZE**
- static int **DEFAULT_DURABLE_TOPIC_PREFETCH**
- static int **DEFAULT_QUEUE_PREFETCH**
- static int **DEFAULT_QUEUE_BROWSER_PREFETCH**
- static int **DEFAULT_TOPIC_PREFETCH**

6.211.1 Constructor & Destructor Documentation

6.211.1.1 activemq::core::policies::DefaultPrefetchPolicy::DefaultPrefetchPolicy ()

6.211.1.2 virtual activemq::core::policies::DefaultPrefetchPolicy::~DefaultPrefetchPolicy () [virtual]

6.211.2 Member Function Documentation

6.211.2.1 virtual PrefetchPolicy* activemq::core::policies::DefaultPrefetchPolicy::clone () const [virtual]

Clone the Policy and return a new pointer to that clone.

Returns:

pointer to a new **PrefetchPolicy** (p. 2382) instance that is a clone of this one.

Implements **activemq::core::PrefetchPolicy** (p. 2383).

6.211.2.2 virtual int activemq::core::policies::DefaultPrefetchPolicy::getDurableTopicPrefetch () const [inline, virtual]

Gets the amount of messages to prefetch for a Durable Topic.

Returns:

value of the number of messages to prefetch.

Implements **activemq::core::PrefetchPolicy** (p. 2384).

6.211.2.3 virtual int activemq::core::policies::DefaultPrefetchPolicy::getMaxPrefetchLimit (int *value*) const [inline, virtual]

Given a requested value for a new prefetch limit, compare it against some max prefetch value and return either the requested value or the maximum allowable value for prefetch.

Returns:

the allowable value for a prefetch limit, either requested or the max.

Implements **activemq::core::PrefetchPolicy** (p. 2384).

6.211.2.4 virtual int activemq::core::policies::DefaultPrefetchPolicy::getQueueBrowserPrefetch () const [inline, virtual]

Gets the amount of messages to prefetch for a Queue Browser.

Returns:

value of the number of messages to prefetch.

Implements **activemq::core::PrefetchPolicy** (p. 2384).

6.211.2.5 virtual int activemq::core::policies::DefaultPrefetchPolicy::getQueuePrefetch () const [inline, virtual]

Gets the amount of messages to prefetch for a Queue.

Returns:

value of the number of messages to prefetch.

Implements **activemq::core::PrefetchPolicy** (p. 2384).

6.211.2.6 virtual int activemq::core::policies::DefaultPrefetchPolicy::getTopicPrefetch () const [inline, virtual]

Gets the amount of messages to prefetch for a Topic.

Returns:

value of the number of messages to prefetch.

Implements **activemq::core::PrefetchPolicy** (p. 2384).

6.211.2.7 virtual void activemq::core::policies::DefaultPrefetchPolicy::setDurableTopicPrefetch (int *value*) [inline, virtual]

Sets the amount of prefetched messages for a Durable Topic.

Parameters:

value The number of messages to prefetch.

Implements **activemq::core::PrefetchPolicy** (p. 2385).

6.211.2.8 virtual void activemq::core::policies::DefaultPrefetchPolicy::setQueueBrowserPrefetch (int *value*) [inline, virtual]

Sets the amount of prefetched messages for a Queue Browser.

Parameters:

value The number of messages to prefetch.

Implements **activemq::core::PrefetchPolicy** (p. 2385).

6.211.2.9 virtual void activemq::core::policies::DefaultPrefetchPolicy::setQueuePrefetch (int *value*) [inline, virtual]

Sets the amount of prefetched messages for a Queue.

Parameters:

value The number of messages to prefetch.

Implements **activemq::core::PrefetchPolicy** (p. 2385).

6.211.2.10 virtual void activemq::core::policies::DefaultPrefetchPolicy::setTopicPrefetch (int *value*) [inline, virtual]

Sets the amount of prefetched messages for a Topic.

Parameters:

value The number of messages to prefetch.

Implements **activemq::core::PrefetchPolicy** (p. 2385).

6.211.3 Field Documentation

6.211.3.1 int activemq::core::policies::DefaultPrefetchPolicy::DEFAULT_DURABLE_TOPIC_PREFETCH [static]

6.211.3.2 int activemq::core::policies::DefaultPrefetchPolicy::DEFAULT_QUEUE_BROWSER_PREFETCH [static]

6.211.3.3 int activemq::core::policies::DefaultPrefetchPolicy::DEFAULT_QUEUE_PREFETCH [static]

6.211.3.4 int activemq::core::policies::DefaultPrefetchPolicy::DEFAULT_TOPIC_PREFETCH [static]

6.211.3.5 int activemq::core::policies::DefaultPrefetchPolicy::MAX_PREFETCH_SIZE [static]

The documentation for this class was generated from the following file:

- src/main/activemq/core/policies/**DefaultPrefetchPolicy.h**

6.212 decaf::internal::security::provider::DefaultProvider Class Reference

Implements the Security Provider interface for the Decaf library.

`#include <src/main/decaf/internal/security/provider/DefaultProvider.h>`Inheritance diagram for decaf::internal::security::provider::DefaultProvider:

Public Member Functions

- virtual ~**DefaultProvider** ()

Protected Member Functions

- **DefaultProvider** ()
- virtual void **initialize** ()

Friends

- class **decaf::internal::security::SecurityRuntime**

6.212.1 Detailed Description

Implements the Security Provider interface for the Decaf library.

Since:

1.0

6.212.2 Constructor & Destructor Documentation

6.212.2.1 decaf::internal::security::provider::DefaultProvider::DefaultProvider () [protected]

6.212.2.2 virtual decaf::internal::security::provider::DefaultProvider::~DefaultProvider () [virtual]

6.212.3 Member Function Documentation

6.212.3.1 virtual void decaf::internal::security::provider::DefaultProvider::initialize () [protected, virtual]

Reimplemented from **decaf::security::Provider** (p. 2486).

6.212.4 Friends And Related Function Documentation

6.212.4.1 friend class decaf::internal::security::SecurityRuntime [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/security/provider/**DefaultProvider.h**

6.213 activemq::core::policies::DefaultRedeliveryPolicy Class Reference

`#include <src/main/activemq/core/policies/DefaultRedeliveryPolicy.h>`Inheritance diagram for activemq::core::policies::DefaultRedeliveryPolicy:

Public Member Functions

- **DefaultRedeliveryPolicy** ()
- virtual ~**DefaultRedeliveryPolicy** ()
- virtual double **getBackOffMultiplier** () const
- virtual void **setBackOffMultiplier** (double value)

  Sets the Back-Off Multiplier for Message Redelivery.

- virtual short **getCollisionAvoidancePercent** () const
- virtual void **setCollisionAvoidancePercent** (short value)
- virtual long long **getInitialRedeliveryDelay** () const

  Gets the initial time that redelivery of messages is delayed.

- virtual void **setInitialRedeliveryDelay** (long long value)

  Sets the initial time that redelivery will be delayed.

- virtual long long **getRedeliveryDelay** () const

  Gets the time that redelivery of messages is delayed.

- virtual void **setRedeliveryDelay** (long long value)

  Sets the time that redelivery will be delayed.

- virtual int **getMaximumRedeliveries** () const

  Gets the Maximum number of allowed redeliveries for a message before it will be discarded by the consumer.

- virtual void **setMaximumRedeliveries** (int value)

  Sets the Maximum allowable redeliveries for a Message.

- virtual bool **isUseCollisionAvoidance** () const
- virtual void **setUseCollisionAvoidance** (bool value)
- virtual bool **isUseExponentialBackOff** () const
- virtual void **setUseExponentialBackOff** (bool value)
- virtual long long **getNextRedeliveryDelay** (long long previousDelay)

  Given the last used redelivery delay calculate the next value of the delay based on the settings in this Policy instance.

- virtual **RedeliveryPolicy** * **clone** () const

  Create a copy of this Policy and return it.

6.213.1 Constructor & Destructor Documentation

6.213.1.1 activemq::core::policies::DefaultRedeliveryPolicy::DefaultRedeliveryPolicy ()

6.213.1.2 virtual activemq::core::policies::DefaultRedeliveryPolicy::~DefaultRedeliveryPolicy () [virtual]

6.213.2 Member Function Documentation

6.213.2.1 virtual RedeliveryPolicy* activemq::core::policies::DefaultRedeliveryPolicy::clone () const [virtual]

Create a copy of this Policy and return it.

Returns:

pointer to a new **RedeliveryPolicy** (p. 2527) that is a copy of this one.

Implements **activemq::core::RedeliveryPolicy** (p. 2528).

6.213.2.2 virtual double activemq::core::policies::DefaultRedeliveryPolicy::getBackOffMultiplier () const [inline, virtual]

Returns:

The value of the Back-Off Multiplier for Message Redelivery.

Implements **activemq::core::RedeliveryPolicy** (p. 2529).

6.213.2.3 virtual short activemq::core::policies::DefaultRedeliveryPolicy::getCollisionAvoidancePercent () const [virtual]

Returns:

the currently set Collision Avoidance percentage.

Implements **activemq::core::RedeliveryPolicy** (p. 2529).

6.213.2.4 virtual long long activemq::core::policies::DefaultRedeliveryPolicy::getInitialRedeliveryDelay () const [inline, virtual]

Gets the initial time that redelivery of messages is delayed.

Returns:

the time in milliseconds that redelivery is delayed initially.

Implements **activemq::core::RedeliveryPolicy** (p. 2529).

6.213.2.5 virtual int activemq::core::policies::DefaultRedeliveryPolicy::getMaximumRedeliveries () const [inline, virtual]

Gets the Maximum number of allowed redeliveries for a message before it will be discarded by the consumer.

Returns:

maximum allowed redeliveries for a message.

Implements **activemq::core::RedeliveryPolicy** (p. 2529).

6.213.2.6 virtual long long activemq::core::policies::DefaultRedeliveryPolicy::getNextRedeliveryDelay (long long *previousDelay*) [virtual]

Given the last used redelivery delay calculate the next value of the delay based on the settings in this Policy instance.

Parameters:

previousDelay The last delay that was used between message redeliveries.

Returns:

the new delay to use before attempting another redelivery.

Implements **activemq::core::RedeliveryPolicy** (p. 2529).

6.213.2.7 virtual long long activemq::core::policies::DefaultRedeliveryPolicy::getRedeliveryDelay () const [inline, virtual]

Gets the time that redelivery of messages is delayed.

Returns:

the time in milliseconds that redelivery is delayed.

Implements **activemq::core::RedeliveryPolicy** (p. 2530).

6.213.2.8 virtual bool activemq::core::policies::DefaultRedeliveryPolicy::isUseCollisionAvoidance () const [inline, virtual]

Returns:

whether or not collision avoidance is enabled for this Policy.

Implements **activemq::core::RedeliveryPolicy** (p. 2530).

6.213.2.9 virtual bool activemq::core::policies::DefaultRedeliveryPolicy::isUseExponentialBackOff () const [inline, virtual]

Returns:

whether or not the exponential back off option is enabled.

Implements **activemq::core::RedeliveryPolicy** (p. 2530).

6.213.2.10 virtual void activemq::core::policies::DefaultRedeliveryPolicy::setBackOffMultiplier (double *value*) [inline, virtual]

Sets the Back-Off Multiplier for Message Redelivery.

Parameters:

value The new value for the back-off multiplier.

Implements **activemq::core::RedeliveryPolicy** (p. 2530).

6.213.2.11 virtual void activemq::core::policies::DefaultRedeliveryPolicy::setCollisionAvoidancePercent (short *value*) [virtual]

Parameters:

value The collision avoidance percentage setting.

Implements **activemq::core::RedeliveryPolicy** (p. 2531).

6.213.2.12 virtual void activemq::core::policies::DefaultRedeliveryPolicy::setInitialRedeliveryDelay (long long *value*) [inline, virtual]

Sets the initial time that redelivery will be delayed.

Parameters:

value Time in Milliseconds to wait before starting redelivery.

Implements **activemq::core::RedeliveryPolicy** (p. 2531).

6.213.2.13 virtual void activemq::core::policies::DefaultRedeliveryPolicy::setMaximumRedeliveries (int *maximumRedeliveries*) [inline, virtual]

Sets the Maximum allowable redeliveries for a Message.

Parameters:

maximumRedeliveries The maximum number of times that a message will be redelivered.

Implements **activemq::core::RedeliveryPolicy** (p. 2531).

6.213.2.14 virtual void activemq::core::policies::DefaultRedeliveryPolicy::setRedeliveryDelay (long long *value*) [inline, virtual]

Sets the time that redelivery will be delayed.

Parameters:

value Time in Milliseconds to wait before the next redelivery.

Implements **activemq::core::RedeliveryPolicy** (p. 2531).

6.213.2.15 virtual void activemq::core::policies::DefaultRedeliveryPolicy::setUseCollisionAvoidance (bool *value*) [inline, virtual]

Parameters:

value Enable or Disable collision avoidance for this Policy.

Implements **activemq::core::RedeliveryPolicy** (p. 2531).

6.213.2.16 virtual void activemq::core::policies::DefaultRedeliveryPolicy::setUseExponentialBackOff (bool *value*) [inline, virtual]

Parameters:

value Enable or Disable the exponential back off multiplier option.

Implements **activemq::core::RedeliveryPolicy** (p. 2532).

The documentation for this class was generated from the following file:

- src/main/activemq/core/policies/**DefaultRedeliveryPolicy.h**

6.214 decaf::internal::security::provider::DefaultSecureRandomProviderS Class Reference

Decaf's Default Secure Random Security **provider** (p. 104) used to create instances of the built-in Secure Random algorithm SPI classes.

`#include <src/main/decaf/internal/security/provider/DefaultSecureRandomProviderService.h>`Inherita
diagram for decaf::internal::security::provider::DefaultSecureRandomProviderService:

Public Member Functions

- **DefaultSecureRandomProviderService** (const **decaf::security::Provider** *provider, const std::string &algorithmName)
- virtual ~**DefaultSecureRandomProviderService** ()
- virtual **decaf::security::SecuritySpi** * **newInstance** ()

  Return a new instance of the implementation described by this service.

6.214.1 Detailed Description

Decaf's Default Secure Random Security **provider** (p. 104) used to create instances of the built-in Secure Random algorithm SPI classes.

Since:

1.0

6.214.2 Constructor & Destructor Documentation

6.214.2.1 decaf::internal::security::provider::DefaultSecureRandomProviderService::DefaultSecureRa (const decaf::security::Provider * *provider*, const std::string & *algorithmName*)

6.214.2.2 virtual decaf::internal::security::provider::DefaultSecureRandomProviderService::~DefaultSecureI () `[virtual]`

6.214.3 Member Function Documentation

6.214.3.1 virtual decaf::security::SecuritySpi* decaf::internal::security::provider::DefaultSecureRandomProviderService::newInstance () `[virtual]`

Return a new instance of the implementation described by this service. The **security** (p. 103) **provider** (p. 104) framework uses this method to construct implementations. Applications will typically not need to call it.

Returns:

a new instance of the SecuritySpi provided by this ProviderService.

Implements **decaf::security::ProviderService** (p. 2491).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/security/provider/**DefaultSecureRandomProviderService.h**

6.215 decaf::internal::net::DefaultServerSocketFactory Class Reference

Default implementation of the Decaf ServerSocketFactory, creates ServerSocket objects with supplied options.

`#include <src/main/decaf/internal/net/DefaultServerSocketFactory.h>`Inheritance diagram for decaf::internal::net::DefaultServerSocketFactory:

Public Member Functions

- **DefaultServerSocketFactory** ()
- virtual ~**DefaultServerSocketFactory** ()
- virtual **decaf::net::ServerSocket** * **createServerSocket** ()

  *Create a new **ServerSocket** (p. 2644) that is unbound.*
  *The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.*
  Returns:

  *new **ServerSocket** (p. 2644) pointer that is owned by the caller.*
  Exceptions:

  ***IOException** if the **ServerSocket** (p. 2644) cannot be created for some reason.*

- virtual **decaf::net::ServerSocket** * **createServerSocket** (int port)

  *Create a new **ServerSocket** (p. 2644) that is bound to the given port.*
  *The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.*
  Parameters:

  ***port** The port to bind the **ServerSocket** (p. 2644) to.*
  Returns:

  *new **ServerSocket** (p. 2644) pointer that is owned by the caller.*
  Exceptions:

  ***IOException** if the **ServerSocket** (p. 2644) cannot be created for some reason.*

- virtual **decaf::net::ServerSocket** * **createServerSocket** (int port, int backlog)

  *Create a new **ServerSocket** (p. 2644) that is bound to the given port.*
  *The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will use the specified connection backlog setting.*
  Parameters:

  ***port** The port to bind the **ServerSocket** (p. 2644) to.*
  ***backlog** The number of pending connect request the **ServerSocket** (p. 2644) can queue.*
  Returns:

  *new **ServerSocket** (p. 2644) pointer that is owned by the caller.*
  Exceptions:

  ***IOException** if the **ServerSocket** (p. 2644) cannot be created for some reason.*

- virtual **decaf::net::ServerSocket** * **createServerSocket** (int port, int backlog, const **decaf::net::InetAddress** *address)

Create a new ***ServerSocket*** *(p. 2644) that is bound to the given port.*
The ***ServerSocket*** *(p. 2644) will have been configured with the defaults from the factory. The* ***ServerSocket*** *(p. 2644) will bind to the specified interface on the local host, and accept connections only on that interface. If the address parameter is NULL than the* ***ServerSocket*** *(p. 2644) will listen on all interfaces.*

Parameters:

port *The port to bind the* ***ServerSocket*** *(p. 2644) to.*
backlog *The number of pending connect request the* ***ServerSocket*** *(p. 2644) can queue.*
address *The address of the interface on the local machine to bind to.*

Returns:

new ***ServerSocket*** *(p. 2644) pointer that is owned by the caller.*

Exceptions:

IOException *if the* ***ServerSocket*** *(p. 2644) cannot be created for some reason.*

6.215.1 Detailed Description

Default implementation of the Decaf ServerSocketFactory, creates ServerSocket objects with supplied options.

Since:

1.0

6.215.2 Constructor & Destructor Documentation

6.215.2.1 decaf::internal::net::DefaultServerSocketFactory::DefaultServerSocketFactory ()

6.215.2.2 virtual decaf::internal::net::DefaultServerSocketFactory::~DefaultServerSocketFactory () [virtual]

6.215.3 Member Function Documentation

6.215.3.1 virtual decaf::net::ServerSocket* decaf::internal::net::DefaultServerSocketFactory::createServerSocket (int *port*, int *backlog*, const decaf::net::InetAddress * *address*) [virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will bind to the specified interface on the local host, and accept connections only on that interface. If the address parameter is NULL than the **ServerSocket** (p. 2644) will listen on all interfaces.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The number of pending connect request the **ServerSocket** (p. 2644) can queue.

address The address of the interface on the local machine to bind to.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implements **decaf::net::ServerSocketFactory** (p. 2654).

6.215.3.2 virtual decaf::net::ServerSocket* decaf::internal::net::DefaultServerSocketFactory::createServerSocket (int *port*, int *backlog*) [virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will use the specified connection backlog setting.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The number of pending connect request the **ServerSocket** (p. 2644) can queue.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implements **decaf::net::ServerSocketFactory** (p. 2654).

6.215.3.3 virtual decaf::net::ServerSocket* decaf::internal::net::DefaultServerSocketFactory::createServerSocket (int *port*) [virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implements **decaf::net::ServerSocketFactory** (p. 2655).

6.215.3.4 virtual decaf::net::ServerSocket* decaf::internal::net::DefaultServerSocketFactory::createServerSocket () [virtual]

Create a new **ServerSocket** (p. 2644) that is unbound.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Reimplemented from **decaf::net::ServerSocketFactory** (p. 2655).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/**DefaultServerSocketFactory.h**

6.216 decaf::internal::net::DefaultSocketFactory Class Reference

SocketFactory implementation that is used to create Sockets.

`#include <src/main/decaf/internal/net/DefaultSocketFactory.h>`Inheritance diagram for decaf::internal::net::DefaultSocketFactory:

Public Member Functions

- **DefaultSocketFactory** ()
- virtual ~**DefaultSocketFactory** ()
- virtual **decaf::net::Socket** * **createSocket** ()

  Creates an unconnected ***Socket*** *(p. 2755) object.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if the* ***Socket*** *(p. 2755) cannot be created.*

- virtual **decaf::net::Socket** * **createSocket** (const **decaf::net::InetAddress** *host, int port)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*

  Parameters:

  host *The host to connect the socket to.*
  port *The port on the remote host to connect to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

- virtual **decaf::net::Socket** * **createSocket** (const **decaf::net::InetAddress** *host, int port, const **decaf::net::InetAddress** *ifAddress, int localPort)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*
  The ***Socket*** *(p. 2755) will be bound to the specified local address and port.*

  Parameters:

  host *The host to connect the socket to.*
  port *The port on the remote host to connect to.*
  ifAddress *The address on the local machine to bind the* ***Socket*** *(p. 2755) to.*
  localPort *The local port to bind the* ***Socket*** *(p. 2755) to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

- virtual **decaf::net::Socket** * **createSocket** (const std::string &name, int port)

Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*

Parameters:

host *The host name or IP address to connect the socket to.*
port *The port on the remote host to connect to.*

Returns:

a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

Exceptions:

IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
UnknownHostException *(p. 3138) if the host name is not known.*

- virtual **decaf::net::Socket** * **createSocket** (const std::string &name, int port, const **decaf::net::InetAddress** *ifAddress, int localPort)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*

  Parameters:

  host *The host name or IP address to connect the socket to.*
  port *The port on the remote host to connect to.*
  ifAddress *The address on the local machine to bind the* ***Socket*** *(p. 2755) to.*
  localPort *The local port to bind the* ***Socket*** *(p. 2755) to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

6.216.1 Detailed Description

SocketFactory implementation that is used to create Sockets.

Since:

1.0

6.216.2 Constructor & Destructor Documentation

6.216.2.1 decaf::internal::net::DefaultSocketFactory::DefaultSocketFactory ()

6.216.2.2 virtual decaf::internal::net::DefaultSocketFactory::~DefaultSocketFactory () [virtual]

6.216.3 Member Function Documentation

6.216.3.1 virtual decaf::net::Socket* decaf::internal::net::DefaultSocketFactory::createSocket (const std::string & *name*, int *port*, const decaf::net::InetAddress * *ifAddress*, int *localPort*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host name or IP address to connect the socket to.

port The port on the remote host to connect to.

ifAddress The address on the local machine to bind the **Socket** (p. 2755) to.

localPort The local port to bind the **Socket** (p. 2755) to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2775).

6.216.3.2 virtual decaf::net::Socket* decaf::internal::net::DefaultSocketFactory::createSocket (const std::string & *name*, int *port*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host name or IP address to connect the socket to.

port The port on the remote host to connect to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2775).

6.216.3.3 virtual decaf::net::Socket* decaf::internal::net::DefaultSocketFactory::createSocket (const decaf::net::InetAddress * *host*, int *port*, const decaf::net::InetAddress * *ifAddress*, int *localPort*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

The **Socket** (p. 2755) will be bound to the specified local address and port.

Parameters:

host The host to connect the socket to.

port The port on the remote host to connect to.
ifAddress The address on the local machine to bind the **Socket** (p. 2755) to.
localPort The local port to bind the **Socket** (p. 2755) to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.
UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2776).

6.216.3.4 virtual decaf::net::Socket* decaf::internal::net::DefaultSocketFactory::createSocket (const decaf::net::InetAddress * *host*, int *port*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host to connect the socket to.
port The port on the remote host to connect to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.
UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2776).

6.216.3.5 virtual decaf::net::Socket* decaf::internal::net::DefaultSocketFactory::createSocket () [virtual]

Creates an unconnected **Socket** (p. 2755) object.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if the **Socket** (p. 2755) cannot be created.

Reimplemented from **decaf::net::SocketFactory** (p. 2777).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/**DefaultSocketFactory.h**

6.217 decaf::internal::net::ssl::DefaultSSLContext Class Reference

Default SSLContext manager for the Decaf library.

`#include <src/main/decaf/internal/net/ssl/DefaultSSLContext.h>`

Public Member Functions

- virtual ~**DefaultSSLContext** ()

Static Public Member Functions

- static **decaf::net::ssl::SSLContext** * **getContext** ()

Protected Member Functions

- **DefaultSSLContext** ()

6.217.1 Detailed Description

Default SSLContext manager for the Decaf library. If the user doesn't supply or specify the SSLContext that they wish to use then we load the Decaf library's default SSLContext using whatever SSL provider is enabled an preferred.

Since:

1.0

6.217.2 Constructor & Destructor Documentation

6.217.2.1 decaf::internal::net::ssl::DefaultSSLContext::DefaultSSLContext () [protected]

6.217.2.2 virtual decaf::internal::net::ssl::DefaultSSLContext::~DefaultSSLContext () [virtual]

6.217.3 Member Function Documentation

6.217.3.1 static decaf::net::ssl::SSLContext* decaf::internal::net::ssl::DefaultSSLContext::getContext () [static]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/**DefaultSSLContext.h**

6.218 decaf::internal::net::ssl::DefaultSSLServerSocketFactory Class Reference

Default implementation of the SSLServerSocketFactory, this factory throws an Exception from all its create methods to indicate that SSL is not supported, this factory is used when OpenSSL is not enabled in the builds.

`#include <src/main/decaf/internal/net/ssl/DefaultSSLServerSocketFactory.h>`Inheritance diagram for decaf::internal::net::ssl::DefaultSSLServerSocketFactory:

Public Member Functions

- **DefaultSSLServerSocketFactory** (const std::string &errorMessage)
- virtual ~**DefaultSSLServerSocketFactory** ()
- virtual **decaf::net::ServerSocket** * **createServerSocket** ()

  Create a new ***ServerSocket*** *(p. 2644) that is unbound.*
  The ***ServerSocket*** *(p. 2644) will have been configured with the defaults from the factory.*
  Returns:

  new ***ServerSocket*** *(p. 2644) pointer that is owned by the caller.*
  Exceptions:

  IOException *if the* ***ServerSocket*** *(p. 2644) cannot be created for some reason.*

- virtual **decaf::net::ServerSocket** * **createServerSocket** (int port)

  Create a new ***ServerSocket*** *(p. 2644) that is bound to the given port.*
  The ***ServerSocket*** *(p. 2644) will have been configured with the defaults from the factory.*
  Parameters:

  port *The port to bind the* ***ServerSocket*** *(p. 2644) to.*
  Returns:

  new ***ServerSocket*** *(p. 2644) pointer that is owned by the caller.*
  Exceptions:

  IOException *if the* ***ServerSocket*** *(p. 2644) cannot be created for some reason.*

- virtual **decaf::net::ServerSocket** * **createServerSocket** (int port, int backlog)

  Create a new ***ServerSocket*** *(p. 2644) that is bound to the given port.*
  The ***ServerSocket*** *(p. 2644) will have been configured with the defaults from the factory. The* ***ServerSocket*** *(p. 2644) will use the specified connection backlog setting.*
  Parameters:

  port *The port to bind the* ***ServerSocket*** *(p. 2644) to.*
  backlog *The number of pending connect request the* ***ServerSocket*** *(p. 2644) can queue.*
  Returns:

  new ***ServerSocket*** *(p. 2644) pointer that is owned by the caller.*
  Exceptions:

  IOException *if the* ***ServerSocket*** *(p. 2644) cannot be created for some reason.*

- virtual **decaf::net::ServerSocket** * **createServerSocket** (int port, int backlog, const **decaf::net::InetAddress** *address)

*Create a new **ServerSocket** (p. 2644) that is bound to the given port.*
*The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will bind to the specified interface on the local host, and accept connections only on that interface. If the address parameter is NULL than the **ServerSocket** (p. 2644) will listen on all interfaces.*

Parameters:

port *The port to bind the **ServerSocket** (p. 2644) to.*
backlog *The number of pending connect request the **ServerSocket** (p. 2644) can queue.*
address *The address of the interface on the local machine to bind to.*

Returns:

*new **ServerSocket** (p. 2644) pointer that is owned by the caller.*

Exceptions:

IOException *if the **ServerSocket** (p. 2644) cannot be created for some reason.*

- virtual std::vector< std::string > **getDefaultCipherSuites** ()

Returns the list of cipher suites which are enabled by default.
Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

Returns:

an STL vector containing the list of cipher suites enabled by default.

See also:

getSupportedCipherSuites() *(p. 2811)*

- virtual std::vector< std::string > **getSupportedCipherSuites** ()

Returns the names of the cipher suites which could be enabled for use on an SSL connection.
Normally, only a subset of these will actually be enabled by default, since this list may include cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

Returns:

an STL vector containing the list of supported cipher suites.

See also:

getDefaultCipherSuites() *(p. 2811)*

6.218.1 Detailed Description

Default implementation of the SSLServerSocketFactory, this factory throws an Exception from all its create methods to indicate that SSL is not supported, this factory is used when OpenSSL is not enabled in the builds.

Since:

1.0

6.218.2 Constructor & Destructor Documentation

6.218.2.1 decaf::internal::net::ssl::DefaultSSLServerSocketFactory::DefaultSSLServerSocketFactory (const std::string & *errorMessage*)

6.218.2.2 virtual decaf::internal::net::ssl::DefaultSSLServerSocketFactory::~DefaultSSLServerSocketFactory () [virtual]

6.218.3 Member Function Documentation

6.218.3.1 virtual decaf::net::ServerSocket* decaf::internal::net::ssl::DefaultSSLServerSocketFactory::createServerSocket (int *port*, int *backlog*, const decaf::net::InetAddress * *address*) [virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will bind to the specified interface on the local host, and accept connections only on that interface. If the address parameter is NULL than the **ServerSocket** (p. 2644) will listen on all interfaces.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The number of pending connect request the **ServerSocket** (p. 2644) can queue.

address The address of the interface on the local machine to bind to.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implements **decaf::net::ServerSocketFactory** (p. 2654).

6.218.3.2 virtual decaf::net::ServerSocket* decaf::internal::net::ssl::DefaultSSLServerSocketFactory::createServerSocket (int *port*, int *backlog*) [virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will use the specified connection backlog setting.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The number of pending connect request the **ServerSocket** (p. 2644) can queue.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implements **decaf::net::ServerSocketFactory** (p. 2654).

6.218.3.3 virtual decaf::net::ServerSocket* decaf::internal::net::ssl::DefaultSSLServerSocketFactory::createServerSocket (int *port*) [virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implements **decaf::net::ServerSocketFactory** (p. 2655).

6.218.3.4 virtual decaf::net::ServerSocket* decaf::internal::net::ssl::DefaultSSLServerSocketFactory::createServerSocket () [virtual]

Create a new **ServerSocket** (p. 2644) that is unbound.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Reimplemented from **decaf::net::ServerSocketFactory** (p. 2655).

6.218.3.5 virtual std::vector<std::string> decaf::internal::net::ssl::DefaultSSLServerSocketFactory::getDefaultCipherSuites () [virtual]

Returns the list of cipher suites which are enabled by default.

Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

Returns:

an STL vector containing the list of cipher suites enabled by default.

See also:

getSupportedCipherSuites() (p. 2811)

Implements **decaf::net::ssl::SSLServerSocketFactory** (p. 2811).

6.218.3.6 virtual std::vector<std::string> decaf::internal::net::ssl::DefaultSSLServerSocketFactory::getSupportedCipherSuites () [virtual]

Returns the names of the cipher suites which could be enabled for use on an SSL connection.

Normally, only a subset of these will actually be enabled by default, since this list may include cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

Returns:

an STL vector containing the list of supported cipher suites.

See also:

getDefaultCipherSuites() (p. 2811)

Implements **decaf::net::ssl::SSLServerSocketFactory** (p. 2811).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/**DefaultSSLServerSocketFactory.h**

6.219 decaf::internal::net::ssl::DefaultSSLSocketFactory Class Reference

Default implementation of the SSLSocketFactory, this factory throws an Exception from all its create methods to indicate that SSL is not supported, this factory is used when OpenSSL is not enabled in the builds.

`#include <src/main/decaf/internal/net/ssl/DefaultSSLSocketFactory.h>`Inheritance diagram for decaf::internal::net::ssl::DefaultSSLSocketFactory:

Public Member Functions

- **DefaultSSLSocketFactory** (const std::string &errorMessage)
- virtual ~**DefaultSSLSocketFactory** ()
- virtual **decaf::net::Socket** * **createSocket** ()

  Creates an unconnected ***Socket*** *(p. 2755) object.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if the* ***Socket*** *(p. 2755) cannot be created.*

- virtual **decaf::net::Socket** * **createSocket** (const **decaf::net::InetAddress** *host, int port)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*

  Parameters:

  host *The host to connect the socket to.*
  port *The port on the remote host to connect to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

- virtual **decaf::net::Socket** * **createSocket** (const **decaf::net::InetAddress** *host, int port, const **decaf::net::InetAddress** *ifAddress, int localPort)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*
  The ***Socket*** *(p. 2755) will be bound to the specified local address and port.*

  Parameters:

  host *The host to connect the socket to.*
  port *The port on the remote host to connect to.*
  ifAddress *The address on the local machine to bind the* ***Socket*** *(p. 2755) to.*
  localPort *The local port to bind the* ***Socket*** *(p. 2755) to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

- virtual **decaf::net::Socket** * **createSocket** (const std::string &name, int port)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*

  Parameters:

  host *The host name or IP address to connect the socket to.*
  port *The port on the remote host to connect to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

- virtual **decaf::net::Socket** * **createSocket** (const std::string &name, int port, const **decaf::net::InetAddress** *ifAddress, int localPort)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*

  Parameters:

  host *The host name or IP address to connect the socket to.*
  port *The port on the remote host to connect to.*
  ifAddress *The address on the local machine to bind the* ***Socket*** *(p. 2755) to.*
  localPort *The local port to bind the* ***Socket*** *(p. 2755) to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

- virtual std::vector< std::string > **getDefaultCipherSuites** ()

  Returns the list of cipher suites which are enabled by default.
  Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

  Returns:

  an STL vector containing the list of cipher suites enabled by default.

  See also:

  getSupportedCipherSuites() *(p. 2823)*

- virtual std::vector< std::string > **getSupportedCipherSuites** ()

  Returns the names of the cipher suites which could be enabled for use on an SSL connection. Normally, only a subset of these will actually be enabled by default, since this list may include cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

  Returns:

  an STL vector containing the list of supported cipher suites.

  See also:

  getDefaultCipherSuites() *(p. 2823)*

- virtual **decaf::net::Socket** * **createSocket** (**decaf::net::Socket** *socket, std::string host, int port, bool autoClose)

Returns a socket layered over an existing socket connected to the named host, at the given port. This constructor can be used when tunneling SSL through a proxy or when negotiating the use of SSL over an existing socket. The host and port refer to the logical peer destination. This socket is configured using the socket options established for this factory.

Parameters:

socket *The existing socket to layer over.*
host *The server host the original* ***Socket*** *(p. 2755) is connected to.*
port *The server port the original* ***Socket*** *(p. 2755) is connected to.*
autoClose *Should the layered over* ***Socket*** *(p. 2755) be closed when the topmost socket is closed.*

Returns:

a new ***Socket*** *(p. 2755) instance that wraps the given* ***Socket*** *(p. 2755).*

Exceptions:

IOException *if an I/O exception occurs while performing this operation.*
UnknownHostException *(p. 3138) if the host is unknown.*

6.219.1 Detailed Description

Default implementation of the SSLSocketFactory, this factory throws an Exception from all its create methods to indicate that SSL is not supported, this factory is used when OpenSSL is not enabled in the builds.

Since:

1.0

6.219.2 Constructor & Destructor Documentation

6.219.2.1 decaf::internal::net::ssl::DefaultSSLSocketFactory::DefaultSSLSocketFactory (const std::string & *errorMessage*)

6.219.2.2 virtual decaf::internal::net::ssl::DefaultSSLSocketFactory::~DefaultSSLSocketFactory () [virtual]

6.219.3 Member Function Documentation

6.219.3.1 virtual decaf::net::Socket* decaf::internal::net::ssl::DefaultSSLSocketFactory::createSocket (decaf::net::Socket * *socket*, std::string *host*, int *port*, bool *autoClose*) [virtual]

Returns a socket layered over an existing socket connected to the named host, at the given port.

This constructor can be used when tunneling SSL through a proxy or when negotiating the use of SSL over an existing socket. The host and port refer to the logical peer destination. This socket is configured using the socket options established for this factory.

Parameters:

socket The existing socket to layer over.

host The server host the original **Socket** (p. 2755) is connected to.

port The server port the original **Socket** (p. 2755) is connected to.

autoClose Should the layered over **Socket** (p. 2755) be closed when the topmost socket is closed.

Returns:

a new **Socket** (p. 2755) instance that wraps the given **Socket** (p. 2755).

Exceptions:

IOException if an I/O exception occurs while performing this operation.

UnknownHostException *(p. 3138)* if the host is unknown.

Implements **decaf::net::ssl::SSLSocketFactory** (p. 2822).

6.219.3.2 virtual decaf::net::Socket* decaf::internal::net::ssl::DefaultSSLSocketFactory::createSocket (const std::string & *name*, int *port*, const decaf::net::InetAddress * *ifAddress*, int *localPort*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host name or IP address to connect the socket to.

port The port on the remote host to connect to.

ifAddress The address on the local machine to bind the **Socket** (p. 2755) to.

localPort The local port to bind the **Socket** (p. 2755) to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2775).

6.219.3.3 virtual decaf::net::Socket* decaf::internal::net::ssl::DefaultSSLSocketFactory::createSocket (const std::string & *name*, int *port*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host name or IP address to connect the socket to.

port The port on the remote host to connect to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2775).

6.219.3.4 virtual decaf::net::Socket* decaf::internal::net::ssl::DefaultSSLSocketFactory::createSocket (const decaf::net::InetAddress * *host*, int *port*, const decaf::net::InetAddress * *ifAddress*, int *localPort*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

The **Socket** (p. 2755) will be bound to the specified local address and port.

Parameters:

host The host to connect the socket to.

port The port on the remote host to connect to.

ifAddress The address on the local machine to bind the **Socket** (p. 2755) to.

localPort The local port to bind the **Socket** (p. 2755) to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2776).

6.219.3.5 virtual decaf::net::Socket* decaf::internal::net::ssl::DefaultSSLSocketFactory::createSocket (const decaf::net::InetAddress * *host*, int *port*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host to connect the socket to.

port The port on the remote host to connect to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2776).

6.219.3.6 virtual decaf::net::Socket* decaf::internal::net::ssl::DefaultSSLSocketFactory::createSocket () [virtual]

Creates an unconnected **Socket** (p. 2755) object.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if the **Socket** (p. 2755) cannot be created.

Reimplemented from **decaf::net::SocketFactory** (p. 2777).

6.219.3.7 virtual std::vector<std::string> decaf::internal::net::ssl::DefaultSSLSocketFactory::getDefaultCipherSuites () [virtual]

Returns the list of cipher suites which are enabled by default.

Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

Returns:

an STL vector containing the list of cipher suites enabled by default.

See also:

getSupportedCipherSuites() (p. 2823)

Implements **decaf::net::ssl::SSLSocketFactory** (p. 2823).

6.219.3.8 virtual std::vector<std::string> decaf::internal::net::ssl::DefaultSSLSocketFactory::getSupportedCipherSuites () [virtual]

Returns the names of the cipher suites which could be enabled for use on an SSL connection.

Normally, only a subset of these will actually be enabled by default, since this list may include cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

Returns:

an STL vector containing the list of supported cipher suites.

See also:

getDefaultCipherSuites() (p. 2823)

Implements **decaf::net::ssl::SSLSocketFactory** (p. 2823).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/**DefaultSSLSocketFactory.h**

6.220 activemq::transport::DefaultTransportListener Class Reference

A Utility class that create empty implementations for the **TransportListener** (p. 3130) interface so that a subclass only needs to override the one's its interested.

`#include <src/main/activemq/transport/DefaultTransportListener.h>`Inheritance diagram for activemq::transport::DefaultTransportListener:

Public Member Functions

- virtual ~**DefaultTransportListener** ()
- virtual void **onCommand** (const **Pointer**< **Command** > command AMQCPP_UNUSED)

  Event handler for the receipt of a command.

- virtual void **onException** (const **decaf::lang::Exception** &ex AMQCPP_UNUSED)

  Event handler for an exception from a command ***transport*** *(p. 72).*

- virtual void **transportInterrupted** ()

  The ***transport*** *(p. 72) has suffered an interruption from which it hopes to recover.*

- virtual void **transportResumed** ()

  The ***transport*** *(p. 72) has resumed after an interruption.*

6.220.1 Detailed Description

A Utility class that create empty implementations for the **TransportListener** (p. 3130) interface so that a subclass only needs to override the one's its interested.

6.220.2 Constructor & Destructor Documentation

6.220.2.1 virtual activemq::transport::DefaultTransportListener::~DefaultTransportListener () [virtual]

6.220.3 Member Function Documentation

6.220.3.1 virtual void activemq::transport::DefaultTransportListener::onCommand (const Pointer< Command > command *AMQCPP_UNUSED*) [inline, virtual]

Event handler for the receipt of a command. The **transport** (p. 72) passes off all received **commands** (p. 61) to its listeners, the listener then owns the Object. If there is no registered listener the **Transport** (p. 3109) deletes the command upon receipt.

Parameters:

command the received command object.

Implements **activemq::transport::TransportListener** (p. 3130).

Reimplemented in **activemq::transport::mock::InternalCommandListener** (p. 1751).

6.220.3.2 virtual void activemq::transport::DefaultTransportListener::onException (const decaf::lang::Exception &ex *AMQCPP_UNUSED*) [inline, virtual]

Event handler for an exception from a command **transport** (p. 72).

Parameters:

ex The exception.

6.220.3.3 virtual void activemq::transport::DefaultTransportListener::transportInterrupted () [inline, virtual]

The **transport** (p. 72) has suffered an interruption from which it hopes to recover.

Implements **activemq::transport::TransportListener** (p. 3131).

6.220.3.4 virtual void activemq::transport::DefaultTransportListener::transportResumed () [inline, virtual]

The **transport** (p. 72) has resumed after an interruption.

Implements **activemq::transport::TransportListener** (p. 3131).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**DefaultTransportListener.h**

6.221 decaf::util::zip::Deflater Class Reference

This class compresses data using the *DEFLATE* algorithm (see `specification`).

`#include <src/main/decaf/util/zip/Deflater.h>`

Public Member Functions

- **Deflater** (int level, bool nowrap=false)
  Creates a new compressor using the specified compression level.
- **Deflater** ()
  Creates a new compressor with the default compression level.
- virtual ~**Deflater** ()
- void **setInput** (const unsigned char *buffer, int size, int offset, int length)
  Sets input data for compression.
- void **setInput** (const std::vector< unsigned char > &buffer, int offset, int length)
  Sets input data for compression.
- void **setInput** (const std::vector< unsigned char > &buffer)
  Sets input data for compression.
- void **setDictionary** (const unsigned char *buffer, int size, int offset, int length)
  Sets preset dictionary for compression.
- void **setDictionary** (const std::vector< unsigned char > &buffer, int offset, int length)
  Sets preset dictionary for compression.
- void **setDictionary** (const std::vector< unsigned char > &buffer)
  Sets preset dictionary for compression.
- void **setStrategy** (int strategy)
  Sets the compression strategy to the specified value.
- void **setLevel** (int level)
  Sets the compression level to the specified value.
- bool **needsInput** () const
- void **finish** ()
  When called, indicates that compression should end with the current contents of the input buffer.
- bool **finished** () const
- int **deflate** (unsigned char *buffer, int size, int offset, int length)
  Fills specified buffer with compressed data.
- int **deflate** (std::vector< unsigned char > &buffer, int offset, int length)
  Fills specified buffer with compressed data.

- int **deflate** (std::vector< unsigned char > &buffer)

  Fills specified buffer with compressed data.

- long long **getAdler** () const
- long long **getBytesRead** () const
- long long **getBytesWritten** () const
- void **reset** ()

  Resets deflater so that a new set of input data can be processed.

- void **end** ()

  Closes the compressor and discards any unprocessed input.

Static Public Attributes

- static const int **BEST_SPEED**

  Compression level for fastest compression.

- static const int **BEST_COMPRESSION**

  Compression level for best compression.

- static const int **DEFAULT_COMPRESSION**

  Default compression level.

- static const int **DEFLATED**

  Compression method for the deflate algorithm (the only one currently supported).

- static const int **NO_COMPRESSION**

  Compression level for no compression.

- static const int **FILTERED**

  Compression strategy best used for data consisting mostly of small values with a somewhat random distribution.

- static const int **HUFFMAN_ONLY**

  Compression strategy for Huffman coding only.

- static const int **DEFAULT_STRATEGY**

  Default compression strategy.

6.221.1 Detailed Description

This class compresses data using the *DEFLATE* algorithm (see `specification`). Basically this class is part of the API to the stream based ZLIB compression library and is used as such by **DeflaterOutputStream** (p. 1353) and its descendants.

The typical usage of a **Deflater** (p. 1344) instance outside this package consists of a specific call to one of its constructors before being passed to an instance of **DeflaterOutputStream** (p. 1353).

See also:

DeflaterOutputStream (p. 1353)
Inflater (p. 1678)

Since:

1.0

6.221.2 Constructor & Destructor Documentation

6.221.2.1 decaf::util::zip::Deflater::Deflater (int *level*, bool *nowrap* = `false`)

Creates a new compressor using the specified compression level. If 'nowrap' is true then the ZLIB header and checksum fields will not be used in order to support the compression format used in both GZIP and PKZIP.

Parameters:

level The compression level to use (0-9).

nowrap If true uses GZip compatible compression (defaults to false).

6.221.2.2 decaf::util::zip::Deflater::Deflater ()

Creates a new compressor with the default compression level. Compressed data will be generated in ZLIB format.

6.221.2.3 virtual decaf::util::zip::Deflater::~Deflater () `[virtual]`

6.221.3 Member Function Documentation

6.221.3.1 int decaf::util::zip::Deflater::deflate (std::vector< unsigned char > & *buffer*)

Fills specified buffer with compressed data. Returns actual number of bytes of compressed data. A return value of 0 indicates that **needsInput()** (p. 1348) should be called in order to determine if more input data is required.

Parameters:

buffer The Buffer to write the compressed data to.

Returns:

the actual number of bytes of compressed data.

Exceptions:

IllegalStateException if in the end state.

6.221.3.2 int decaf::util::zip::Deflater::deflate (std::vector< unsigned char > & *buffer*, int *offset*, int *length*)

Fills specified buffer with compressed data. Returns actual number of bytes of compressed data. A return value of 0 indicates that **needsInput()** (p. 1348) should be called in order to determine if more input data is required.

Parameters:

buffer The Buffer to write the compressed data to.

offset The position in the Buffer to start writing at.

length The maximum number of byte of data to write.

Returns:

the actual number of bytes of compressed data.

Exceptions:

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

6.221.3.3 int decaf::util::zip::Deflater::deflate (unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Fills specified buffer with compressed data. Returns actual number of bytes of compressed data. A return value of 0 indicates that **needsInput()** (p. 1348) should be called in order to determine if more input data is required.

Parameters:

buffer The Buffer to write the compressed data to.

size The size of the passed buffer.

offset The position in the Buffer to start writing at.

length The maximum number of byte of data to write.

Returns:

the actual number of bytes of compressed data.

Exceptions:

NullPointerException if buffer is NULL.

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

6.221.3.4 void decaf::util::zip::Deflater::end ()

Closes the compressor and discards any unprocessed input. This method should be called when the compressor is no longer being used, but will also be called automatically by the destructor. Once this method is called, the behavior of the **Deflater** (p. 1344) object is undefined.

6.221.3.5 void decaf::util::zip::Deflater::finish ()

When called, indicates that compression should end with the current contents of the input buffer.

6.221.3.6 bool decaf::util::zip::Deflater::finished () const

Returns:

true if the end of the compressed data output stream has been reached.

6.221.3.7 long long decaf::util::zip::Deflater::getAdler () const

Returns:

the ADLER-32 value of the uncompressed data.

Exceptions:

IllegalStateException if in the end state.

6.221.3.8 long long decaf::util::zip::Deflater::getBytesRead () const

Returns:

the total number of uncompressed bytes input so far.

Exceptions:

IllegalStateException if in the end state.

6.221.3.9 long long decaf::util::zip::Deflater::getBytesWritten () const

Returns:

the total number of compressed bytes output so far.

Exceptions:

IllegalStateException if in the end state.

6.221.3.10 bool decaf::util::zip::Deflater::needsInput () const

Returns:

true if the input data buffer is empty and **setInput()** (p. 1350) should be called in order to provide more input

6.221.3.11 void decaf::util::zip::Deflater::reset ()

Resets deflater so that a new set of input data can be processed. Keeps current compression level and strategy settings.

Exceptions:

IllegalStateException if in the end state.

6.221.3.12 void decaf::util::zip::Deflater::setDictionary (const std::vector< unsigned char > & *buffer*)

Sets preset dictionary for compression. A preset dictionary is used when the history buffer can be predetermined. When the data is later uncompressed with **Inflater.inflate()** (p. 1682), **Inflater.getAdler()** (p. 1680) can be called in order to get the Adler-32 value of the dictionary required for decompression.

Parameters:

buffer The buffer containing the preset dictionary.

Exceptions:

IllegalStateException if in the end state.

6.221.3.13 void decaf::util::zip::Deflater::setDictionary (const std::vector< unsigned char > & *buffer*, int *offset*, int *length*)

Sets preset dictionary for compression. A preset dictionary is used when the history buffer can be predetermined. When the data is later uncompressed with **Inflater.inflate()** (p. 1682), **Inflater.getAdler()** (p. 1680) can be called in order to get the Adler-32 value of the dictionary required for decompression.

Parameters:

buffer The buffer containing the preset dictionary.

offset The position in the Buffer to start reading from.

length The number of bytes to read from the input buffer.

Exceptions:

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

6.221.3.14 void decaf::util::zip::Deflater::setDictionary (const unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Sets preset dictionary for compression. A preset dictionary is used when the history buffer can be predetermined. When the data is later uncompressed with **Inflater.inflate()** (p. 1682), **Inflater.getAdler()** (p. 1680) can be called in order to get the Adler-32 value of the dictionary required for decompression.

Parameters:

buffer The buffer containing the preset dictionary.

size The size of the passed dictionary buffer.

offset The position in the Buffer to start reading from.

length The number of bytes to read from the input buffer.

Exceptions:

NullPointerException if buffer is NULL.

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

6.221.3.15 void decaf::util::zip::Deflater::setInput (const std::vector< unsigned char > & *buffer*)

Sets input data for compression. This should be called whenever **needsInput()** (p. 1348) returns true indicating that more input data is required.

Parameters:

buffer The Buffer to read in for compression.

Exceptions:

IllegalStateException if in the end state.

6.221.3.16 void decaf::util::zip::Deflater::setInput (const std::vector< unsigned char > & *buffer*, int *offset*, int *length*)

Sets input data for compression. This should be called whenever **needsInput()** (p. 1348) returns true indicating that more input data is required.

Parameters:

buffer The Buffer to read in for compression.

offset The position in the Buffer to start reading from.

length The number of bytes to read from the input buffer.

Exceptions:

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

6.221.3.17 void decaf::util::zip::Deflater::setInput (const unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Sets input data for compression. This should be called whenever **needsInput()** (p. 1348) returns true indicating that more input data is required.

Parameters:

buffer The Buffer to read in for compression.

size The size in bytes of the buffer passed.

offset The position in the Buffer to start reading from.

length The number of bytes to read from the input buffer.

Exceptions:

NullPointerException if buffer is NULL.

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

6.221.3.18 void decaf::util::zip::Deflater::setLevel (int *level*)

Sets the compression level to the specified value.

Parameters:

level The new Compression level to use.

Exceptions:

IllegalArgumentException if the level value is invalid.

IllegalStateException if in the end state.

6.221.3.19 void decaf::util::zip::Deflater::setStrategy (int *strategy*)

Sets the compression strategy to the specified value.

Parameters:

strategy The new Compression strategy to use.

Exceptions:

IllegalArgumentException if the strategy value is invalid.

IllegalStateException if in the end state.

6.221.4 Field Documentation

6.221.4.1 const int decaf::util::zip::Deflater::BEST_COMPRESSION [static]

Compression level for best compression.

6.221.4.2 const int decaf::util::zip::Deflater::BEST_SPEED [static]

Compression level for fastest compression.

6.221.4.3 const int decaf::util::zip::Deflater::DEFAULT_COMPRESSION [static]

Default compression level.

6.221.4.4 const int decaf::util::zip::Deflater::DEFAULT_STRATEGY [static]

Default compression strategy.

6.221.4.5 const int decaf::util::zip::Deflater::DEFLATED [static]

Compression method for the deflate algorithm (the only one currently supported).

6.221.4.6 const int decaf::util::zip::Deflater::FILTERED [static]

Compression strategy best used for data consisting mostly of small values with a somewhat random distribution. Forces more Huffman coding and less string matching.

6.221.4.7 const int decaf::util::zip::Deflater::HUFFMAN_ONLY [static]

Compression strategy for Huffman coding only.

6.221.4.8 const int decaf::util::zip::Deflater::NO_COMPRESSION [static]

Compression level for no compression.

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**Deflater.h**

6.222 decaf::util::zip::DeflaterOutputStream Class Reference

Provides a FilterOutputStream instance that compresses the data before writing it to the wrapped OutputStream.

`#include <src/main/decaf/util/zip/DeflaterOutputStream.h>`Inheritance diagram for decaf::util::zip::DeflaterOutputStream:

Public Member Functions

- **DeflaterOutputStream** (**decaf::io::OutputStream** ∗**outputStream**, bool **own**=false)

  *Creates a new DeflateOutputStream with a Default **Deflater** (p. 1344) and buffer size.*

- **DeflaterOutputStream** (**decaf::io::OutputStream** ∗**outputStream**, **Deflater** ∗**deflater**, bool **own**=false, bool **ownDeflater**=false)

  *Creates a new DeflateOutputStream with a user supplied **Deflater** (p. 1344) and a default buffer size.*

- **DeflaterOutputStream** (**decaf::io::OutputStream** ∗**outputStream**, **Deflater** ∗**deflater**, int bufferSize, bool **own**=false, bool **ownDeflater**=false)

  *Creates a new DeflateOutputStream with a user supplied **Deflater** (p. 1344) and specified buffer size.*

- virtual ∼**DeflaterOutputStream** ()
- virtual void **finish** ()

  Finishes writing any remaining data to the wrapped OutputStream but does not close it upon completion.

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.
  The object is generally no longer usable after calling close.
  Exceptions:

  ***IOException** (p. 1774) if an error occurs while closing.*

  The default implementation of this method does nothing.
  *The close method of **FilterOutputStream** (p. 1514) calls its flush method, and then calls the close method of its underlying output stream.*

Protected Member Functions

- virtual void **doWriteByte** (unsigned char value)
- virtual void **doWriteArrayBounded** (const unsigned char ∗buffer, int size, int offset, int length)
- virtual void **deflate** ()

  Writes a buffers worth of compressed data to the wrapped OutputStream.

Protected Attributes

- **Deflater** * **deflater**

  *The **Deflater** (p. 1344) for this stream.*

- std::vector< unsigned char > **buf**

  The Buffer to use for.

- bool **ownDeflater**
- bool **isDone**

Static Protected Attributes

- static const std::size_t **DEFAULT_BUFFER_SIZE**

6.222.1 Detailed Description

Provides a FilterOutputStream instance that compresses the data before writing it to the wrapped OutputStream.

Since:

1.0

6.222.2 Constructor & Destructor Documentation

6.222.2.1 decaf::util::zip::DeflaterOutputStream::DeflaterOutputStream (decaf::io::OutputStream * *outputStream*, bool *own* = `false`)

Creates a new DeflateOutputStream with a Default **Deflater** (p. 1344) and buffer size.

Parameters:

outputStream The OutputStream instance to wrap.

own Should this filter take ownership of the OutputStream pointer (default is false).

6.222.2.2 decaf::util::zip::DeflaterOutputStream::DeflaterOutputStream (decaf::io::OutputStream * *outputStream*, Deflater * *deflater*, bool *own* = `false`, bool *ownDeflater* = `false`)

Creates a new DeflateOutputStream with a user supplied **Deflater** (p. 1344) and a default buffer size. When the user supplied a **Deflater** (p. 1344) instance the DeflaterOutpotStream does not take ownership of the **Deflater** (p. 1344) pointer unless the ownDeflater parameter is set to true, the caller is still responsible for deleting the **Deflater** (p. 1344) when ownDeflater is false.

Parameters:

outputStream The OutputStream instance to wrap.

deflater The user supplied **Deflater** (p. 1344) to use for compression. (

own Should this filter take ownership of the OutputStream pointer (default is false).

ownDeflater Should the filter take ownership of the passed **Deflater** (p. 1344) object (default is false).

Exceptions:

NullPointerException if the **Deflater** (p. 1344) given is NULL.

6.222.2.3 decaf::util::zip::DeflaterOutputStream::DeflaterOutputStream (decaf::io::OutputStream * *outputStream*, Deflater * *deflater*, int *bufferSize*, bool *own* = `false`, bool *ownDeflater* = `false`)

Creates a new DeflateOutputStream with a user supplied **Deflater** (p. 1344) and specified buffer size. When the user supplied a **Deflater** (p. 1344) instance the DeflaterOutpotStream does not take ownership of the **Deflater** (p. 1344) pointer unless the ownDeflater parameter is set to true, otherwise the caller is still responsible for deleting the **Deflater** (p. 1344).

Parameters:

outputStream The OutputStream instance to wrap.

deflater The user supplied **Deflater** (p. 1344) to use for compression.

bufferSize The size of the input buffer.

own Should this filter take ownership of the OutputStream pointer (default is false).

ownDeflater Should the filter take ownership of the passed **Deflater** (p. 1344) object (default is false).

Exceptions:

NullPointerException if the **Deflater** (p. 1344) given is NULL.

IllegalArgumentException if bufferSize is 0.

6.222.2.4 virtual decaf::util::zip::DeflaterOutputStream::~DeflaterOutputStream () `[virtual]`

6.222.3 Member Function Documentation

6.222.3.1 virtual void decaf::util::zip::DeflaterOutputStream::close () `[virtual]`

Closes this object and deallocates the appropriate resources.

The object is generally no longer usable after calling close.

Exceptions:

IOException *(p. 1774)* if an error occurs while closing.

The default implementation of this method does nothing.

The close method of **FilterOutputStream** (p. 1514) calls its flush method, and then calls the close method of its underlying output stream. Finishes writing any remaining data to the OutputStream then closes the stream.

Reimplemented from **decaf::io::FilterOutputStream** (p. 1515).

6.222.3.2 virtual void decaf::util::zip::DeflaterOutputStream::deflate () [protected, virtual]

Writes a buffers worth of compressed data to the wrapped OutputStream.

6.222.3.3 virtual void decaf::util::zip::DeflaterOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

6.222.3.4 virtual void decaf::util::zip::DeflaterOutputStream::doWriteByte (unsigned char *value*) [protected, virtual]

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

6.222.3.5 virtual void decaf::util::zip::DeflaterOutputStream::finish () [virtual]

Finishes writing any remaining data to the wrapped OutputStream but does not close it upon completion.

Exceptions:

IOException if an I/O error occurs.

6.222.4 Field Documentation

6.222.4.1 std::vector<unsigned char> decaf::util::zip::DeflaterOutputStream::buf [protected]

The Buffer to use for.

6.222.4.2 const std::size_t decaf::util::zip::DeflaterOutputStream::DEFAULT_BUFFER_SIZE [static, protected]

6.222.4.3 Deflater* decaf::util::zip::DeflaterOutputStream::deflater [protected]

The **Deflater** (p. 1344) for this stream.

6.222.4.4 bool decaf::util::zip::DeflaterOutputStream::isDone [protected]

6.222.4.5 bool decaf::util::zip::DeflaterOutputStream::ownDeflater [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**DeflaterOutputStream.h**

6.223 decaf::util::concurrent::Delayed Class Reference

A mix-in style interface for marking objects that should be acted upon after a given delay.

`#include <src/main/decaf/util/concurrent/Delayed.h>`Inheritance diagram for decaf::util::concurrent::Delayed:

Public Member Functions

- virtual ~**Delayed** ()
- virtual long long **getDelay** (const **TimeUnit** &unit)=0

  Returns the remaining delay associated with this object, in the given time unit.

6.223.1 Detailed Description

A mix-in style interface for marking objects that should be acted upon after a given delay. An implementation of this interface must define a Comparable methods that provides an ordering consistent with its getDelay method.

6.223.2 Constructor & Destructor Documentation

6.223.2.1 virtual decaf::util::concurrent::Delayed::~Delayed () `[inline, virtual]`

6.223.3 Member Function Documentation

6.223.3.1 virtual long long decaf::util::concurrent::Delayed::getDelay (const TimeUnit & *unit*) `[pure virtual]`

Returns the remaining delay associated with this object, in the given time unit.

Parameters:

unit The time unit

Returns:

the remaining delay; zero or negative values indicate that the delay has already elapsed

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Delayed.h**

6.224 cms::DeliveryMode Class Reference

This is an Abstract class whose purpose is to provide a container for the delivery mode enumeration for CMS messages.

`#include <src/main/cms/DeliveryMode.h>`

Public Types

- enum **DELIVERY_MODE** { **PERSISTENT** = 0, **NON_PERSISTENT** = 1 }

  *Enumeration values for **Message** (p. 2077) Delivery Mode.*

Public Member Functions

- virtual ~**DeliveryMode** ()

6.224.1 Detailed Description

This is an Abstract class whose purpose is to provide a container for the delivery mode enumeration for CMS messages. When a client sends a `cms::Message` (p. 2077) it can mark the **Message** (p. 2077) as either Persistent or Non-Persistent. If the client feels that the **Message** (p. 2077) cannot be lost in transit it should mark it as Persistent, otherwise if it is allowable for a **Message** (p. 2077) to occasionally be lost it can mark it as Non-Persistent. This allows the Provider to balance make tradeoffs between balance and **Message** (p. 2077) throughput.

The **DeliveryMode** (p. 1358) covers only the transport of the **Message** (p. 2077) for sending client to its destination and doesn't apply to the receiving **Message** (p. 2077) consumer. The receiving Consumer can drop Message's based on configuration such as memory limits or **Message** (p. 2077) filtering.

A message is guaranteed to be delivered once and only once by a CMS provider if the delivery mode of the message is PERSISTENT and the configuration of the **Message** (p. 2077) consumer allows for it.

Since:

1.0

6.224.2 Member Enumeration Documentation

6.224.2.1 enum cms::DeliveryMode::DELIVERY_MODE

Enumeration values for **Message** (p. 2077) Delivery Mode.

Enumerator:

PERSISTENT

NON_PERSISTENT

6.224.3 Constructor & Destructor Documentation

6.224.3.1 virtual cms::DeliveryMode::~DeliveryMode () [virtual]

The documentation for this class was generated from the following file:

- src/main/cms/**DeliveryMode.h**

6.225 decaf::util::Deque< E > Class Template Reference

Defines a 'Double ended Queue' interface that allows for insertion and removal of elements from both ends.

`#include <src/main/decaf/util/Deque.h>`Inheritance diagram for decaf::util::Deque< E >:

Public Member Functions

- virtual ~**Deque** ()
- virtual void **addFirst** (const E &element)=0

  *Inserts an element onto the front of the **Deque** (p. 1360) if possible without violating the implementations capacity restrictions.*

- virtual void **addLast** (const E &element)=0

  *Inserts an element onto the end of the **Deque** (p. 1360) if possible without violating the implementations capacity restrictions.*

- virtual bool **offerFirst** (const E &element)=0

  *This method attempts to insert the given element into the **Deque** (p. 1360) at the front end.*

- virtual bool **offerLast** (const E &element)=0

  *This method attempts to insert the given element into the **Deque** (p. 1360) at the end.*

- virtual E **removeFirst** ()=0

  *Removes the topmost element from the **Deque** (p. 1360) and returns it.*

- virtual E **removeLast** ()=0

  *Removes the last element from the **Deque** (p. 1360) and returns it.*

- virtual bool **pollFirst** (E &element)=0

  *Removes the first element from the **Deque** (p. 1360) assigns it to the element reference passed.*

- virtual bool **pollLast** (E &element)=0

  *Removes the last element from the **Deque** (p. 1360) assigns it to the element reference passed.*

- virtual E & **getFirst** ()=0

  *Attempts to fetch a reference to the first element in the **Deque** (p. 1360).*

- virtual const E & **getFirst** () const =0
- virtual E & **getLast** ()=0

  *Attempts to fetch a reference to the last element in the **Deque** (p. 1360).*

- virtual const E & **getLast** () const =0
- virtual bool **peekFirst** (E &value) const =0

  *Retrieves the first element contained in this **Deque** (p. 1360) and assigns its value to the reference value passed the value however is not removed from the **Deque** (p. 1360).*

- virtual bool **peekLast** (E &value) const =0

*Retrieves the last element contained in this **Deque** (p. 1360) and assigns its value to the reference value passed the value however is not removed from the **Deque** (p. 1360).*

- virtual bool **removeFirstOccurrence** (const E &value)=0

  *Removes the first occurrence of the specified element from this **Deque** (p. 1360).*

- virtual bool **removeLastOccurrence** (const E &value)=0

  *Removes the last occurrence of the specified element from this **Deque** (p. 1360).*

- virtual void **push** (const E &element)=0

  Pushes an element onto the stack represented by this deque (in other words, at the head of this deque) if it is possible to do so immediately without violating capacity restrictions, otherwise it throwing an IllegalStateException if no space is currently available.

- virtual E **pop** ()=0

  *Treats this **Deque** (p. 1360) as a stack and attempts to pop an element off the top.*

- virtual **Iterator**< E > * **descendingIterator** ()=0

  *Provides an **Iterator** (p. 1789) over this **Collection** (p. 1000) that traverses the element in reverse order.*

- virtual **Iterator**< E > * **descendingIterator** () const =0

6.225.1 Detailed Description

template<typename E> class decaf::util::Deque< E >

Defines a 'Double ended Queue' interface that allows for insertion and removal of elements from both ends. Generally there is no limit on the number of elements that can be placed into a **Deque** (p. 1360).

Unlike a **List** (p. 1889) the **Deque** (p. 1360) doesn't provide index element based access, however methods are provided to grant access to interior elements.

Since:

1.0

6.225.2 Constructor & Destructor Documentation

6.225.2.1 template<typename E> virtual decaf::util::Deque< E >::~Deque () [inline, virtual]

6.225.3 Member Function Documentation

6.225.3.1 template<typename E> virtual void decaf::util::Deque< E >::addFirst (const E & *element*) [pure virtual]

Inserts an element onto the front of the **Deque** (p. 1360) if possible without violating the implementations capacity restrictions. For a capacity restricted **Deque** (p. 1360) it is preferable to call offerFirst instead.

Parameters:

element The element to be placed at the front of the **Deque** (p. 1360).

Exceptions:

IllegalStateException if the element cannot be added at this time due to capacity restrictions

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implemented in **decaf::util::LinkedList< E >** (p. 1874), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1874), **decaf::util::LinkedList< CompositeTask * >** (p. 1874), **decaf::util::LinkedList< URI >** (p. 1874), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1874), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1874), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1874), **decaf::util::LinkedList< decaf::net::URI >** (p. 1874), **decaf::util::LinkedList< Pointer< Command > >** (p. 1874), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1874), **decaf::util::LinkedList< cms::Destination * >** (p. 1874), **decaf::util::LinkedList< cms::Session * >** (p. 1874), and **decaf::util::LinkedList< cms::Connection * >** (p. 1874).

6.225.3.2 template<typename E> virtual void decaf::util::Deque< E >::addLast (const E & *element*) [pure virtual]

Inserts an element onto the end of the **Deque** (p. 1360) if possible without violating the implementations capacity restrictions. For a capacity restricted **Deque** (p. 1360) it is preferable to call offerLast instead.

Parameters:

element The element to be placed at the end of the **Deque** (p. 1360).

Exceptions:

IllegalStateException if the element cannot be added at this time due to capacity restrictions

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implemented in **decaf::util::LinkedList< E >** (p. 1875), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1875), **decaf::util::LinkedList< CompositeTask * >** (p. 1875), **decaf::util::LinkedList< URI >** (p. 1875), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1875), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1875), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1875), **decaf::util::LinkedList< decaf::net::URI >** (p. 1875), **decaf::util::LinkedList< Pointer< Command > >** (p. 1875), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1875), **decaf::util::LinkedList< cms::Destination * >** (p. 1875), **decaf::util::LinkedList< cms::Session * >** (p. 1875), and **decaf::util::LinkedList< cms::Connection * >** (p. 1875).

6.225.3.3 template<typename E> virtual Iterator<E>* decaf::util::Deque< E >::descendingIterator () const [pure virtual]

Implemented in **decaf::util::LinkedList< E >** (p. 1876), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1876), **decaf::util::LinkedList< CompositeTask * >** (p. 1876), **decaf::util::LinkedList< URI >** (p. 1876), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1876), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1876), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1876), **decaf::util::LinkedList< decaf::net::URI >** (p. 1876), **decaf::util::LinkedList< Pointer< Command > >** (p. 1876), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1876), **decaf::util::LinkedList< cms::Destination * >** (p. 1876), **decaf::util::LinkedList< cms::Session * >** (p. 1876), and **decaf::util::LinkedList< cms::Connection * >** (p. 1876).

6.225.3.4 template<typename E> virtual Iterator<E>* decaf::util::Deque< E >::descendingIterator () [pure virtual]

Provides an **Iterator** (p. 1789) over this **Collection** (p. 1000) that traverses the element in reverse order.

Returns:

a new **Iterator** (p. 1789) instance that moves from last to first.

Implemented in **decaf::util::LinkedList< E >** (p. 1877), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1877), **decaf::util::LinkedList< CompositeTask * >** (p. 1877), **decaf::util::LinkedList< URI >** (p. 1877), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1877), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1877), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1877), **decaf::util::LinkedList< decaf::net::URI >** (p. 1877), **decaf::util::LinkedList< Pointer< Command > >** (p. 1877), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1877), **decaf::util::LinkedList< cms::Destination * >** (p. 1877), **decaf::util::LinkedList< cms::Session * >** (p. 1877), and **decaf::util::LinkedList< cms::Connection * >** (p. 1877).

6.225.3.5 template<typename E> virtual const E& decaf::util::Deque< E >::getFirst () const [pure virtual]

Implemented in **decaf::util::LinkedList< E >** (p. 1878), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1878), **decaf::util::LinkedList< CompositeTask * >** (p. 1878), **decaf::util::LinkedList< URI >** (p. 1878), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1878), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1878), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1878), **decaf::util::LinkedList< decaf::net::URI >** (p. 1878), **decaf::util::LinkedList< Pointer< Command > >** (p. 1878), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1878), **decaf::util::LinkedList< cms::Destination * >** (p. 1878), **decaf::util::LinkedList< cms::Session * >** (p. 1878), and **decaf::util::LinkedList< cms::Connection * >** (p. 1878).

6.225.3.6 template<typename E> virtual E& decaf::util::Deque< E >::getFirst () [pure virtual]

Attempts to fetch a reference to the first element in the **Deque** (p. 1360). This method does not remove the element from the **Deque** (p. 1360) but simply returns a reference to it.

Returns:

reference to the first element in the **Deque** (p. 1360).

Exceptions:

NoSuchElementException *(p. 2247)* if the **Deque** (p. 1360) is empty.

Implemented in **decaf::util::LinkedList< E >** (p. 1878), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1878), **decaf::util::LinkedList< CompositeTask * >** (p. 1878), **decaf::util::LinkedList< URI >** (p. 1878), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1878), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1878), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1878), **decaf::util::LinkedList< decaf::net::URI >** (p. 1878), **decaf::util::LinkedList< Pointer< Command > >** (p. 1878), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1878), **decaf::util::LinkedList< cms::Destination * >** (p. 1878), **decaf::util::LinkedList< cms::Session * >** (p. 1878), and **decaf::util::LinkedList< cms::Connection * >** (p. 1878).

6.225.3.7 template<typename E> virtual const E& decaf::util::Deque< E >::getLast () const [pure virtual]

Implemented in **decaf::util::LinkedList< E >** (p. 1878), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1878), **decaf::util::LinkedList< CompositeTask * >** (p. 1878), **decaf::util::LinkedList< URI >** (p. 1878), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1878), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1878), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1878), **decaf::util::LinkedList< decaf::net::URI >** (p. 1878), **decaf::util::LinkedList< Pointer< Command > >** (p. 1878), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1878), **decaf::util::LinkedList< cms::Destination * >** (p. 1878), **decaf::util::LinkedList< cms::Session * >** (p. 1878), and **decaf::util::LinkedList< cms::Connection * >** (p. 1878).

6.225.3.8 template<typename E> virtual E& decaf::util::Deque< E >::getLast () [pure virtual]

Attempts to fetch a reference to the last element in the **Deque** (p. 1360). This method does not remove the element from the **Deque** (p. 1360) but simply returns a reference to it.

Returns:

reference to the last element in the **Deque** (p. 1360).

Exceptions:

NoSuchElementException *(p. 2247)* if the **Deque** (p. 1360) is empty.

Implemented in **decaf::util::LinkedList< E >** (p. 1878), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1878), **decaf::util::LinkedList< CompositeTask * >** (p. 1878), **decaf::util::LinkedList< URI >** (p. 1878), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1878), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1878), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1878), **decaf::util::LinkedList< decaf::net::URI >** (p. 1878), **decaf::util::LinkedList< Pointer< Command > >** (p. 1878), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1878), **decaf::util::LinkedList< cms::Destination * >** (p. 1878), **decaf::util::LinkedList< cms::Session * >** (p. 1878), and **decaf::util::LinkedList< cms::Connection * >** (p. 1878).

6.225.3.9 template<typename E> virtual bool decaf::util::Deque< E >::offerFirst (const E & *element*) [pure virtual]

This method attempts to insert the given element into the **Deque** (p. 1360) at the front end. Unlike the addFirst method that throws an exception if it cannot insert the element due to capacity restrictions etc this method returns false if it cannot insert the element.

Parameters:

element The element to add to this **Deque** (p. 1360).

Returns:

true if the element was added, false otherwise.

Exceptions:

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implemented in **decaf::util::LinkedList< E >** (p. 1880), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1880), **decaf::util::LinkedList< CompositeTask * >** (p. 1880), **decaf::util::LinkedList< URI >** (p. 1880), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1880), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1880), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1880), **decaf::util::LinkedList< decaf::net::URI >** (p. 1880), **decaf::util::LinkedList< Pointer< Command > >** (p. 1880), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1880), **decaf::util::LinkedList< cms::Destination * >** (p. 1880), **decaf::util::LinkedList< cms::Session * >** (p. 1880), and **decaf::util::LinkedList< cms::Connection * >** (p. 1880).

6.225.3.10 template<typename E> virtual bool decaf::util::Deque< E >::offerLast (const E & *element*) [pure virtual]

This method attempts to insert the given element into the **Deque** (p. 1360) at the end. Unlike the addLast method that throws an exception if it cannot insert the element due to capacity restrictions etc this method returns false if it cannot insert the element.

Parameters:

element The element to add to this **Deque** (p. 1360).

Returns:

true if the element was added, false otherwise.

Exceptions:

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implemented in **decaf::util::LinkedList< E >** (p. 1881), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1881), **decaf::util::LinkedList< CompositeTask * >** (p. 1881), **decaf::util::LinkedList< URI >** (p. 1881), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1881), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1881), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1881), **decaf::util::LinkedList< decaf::net::URI >** (p. 1881), **decaf::util::LinkedList< Pointer< Command > >** (p. 1881), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1881), **decaf::util::LinkedList< cms::Destination * >** (p. 1881), **decaf::util::LinkedList< cms::Session * >** (p. 1881), and **decaf::util::LinkedList< cms::Connection * >** (p. 1881).

6.225.3.11 template<typename E> virtual bool decaf::util::Deque< E >::peekFirst (E & *value*) const [pure virtual]

Retrieves the first element contained in this **Deque** (p. 1360) and assigns its value to the reference value passed the value however is not removed from the **Deque** (p. 1360). If this call is successful it returns true. Unlike getFirst this method does not throw an exception if the **Deque** (p. 1360) is empty.

Returns:

true if an element was assigned to the reference passed, false otherwise.

Implemented in **decaf::util::LinkedList< E >** (p. 1882), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1882), **decaf::util::LinkedList< CompositeTask * >** (p. 1882), **decaf::util::LinkedList< URI >** (p. 1882), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1882), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1882), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1882), **decaf::util::LinkedList< decaf::net::URI >** (p. 1882), **decaf::util::LinkedList< Pointer< Command > >** (p. 1882), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1882), **decaf::util::LinkedList< cms::Destination * >** (p. 1882), **decaf::util::LinkedList< cms::Session * >** (p. 1882), and **decaf::util::LinkedList< cms::Connection * >** (p. 1882).

6.225.3.12 template<typename E> virtual bool decaf::util::Deque< E >::peekLast (E & *value*) const [pure virtual]

Retrieves the last element contained in this **Deque** (p. 1360) and assigns its value to the reference value passed the value however is not removed from the **Deque** (p. 1360). If this call is successful it returns true. Unlike getLast this method does not throw an exception if the **Deque** (p. 1360) is empty.

Returns:

true if an element was assigned to the reference passed, false otherwise.

Implemented in **decaf::util::LinkedList< E >** (p. 1882), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1882), **decaf::util::LinkedList< CompositeTask * >** (p. 1882), **decaf::util::LinkedList< URI >** (p. 1882), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1882), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1882), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1882), **decaf::util::LinkedList< decaf::net::URI >** (p. 1882), **decaf::util::LinkedList< Pointer< Command > >** (p. 1882), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1882), **decaf::util::LinkedList< cms::Destination * >** (p. 1882), **decaf::util::LinkedList< cms::Session * >** (p. 1882), and **decaf::util::LinkedList< cms::Connection * >** (p. 1882).

6.225.3.13 template<typename E> virtual bool decaf::util::Deque< E >::pollFirst (E & *element*) [pure virtual]

Removes the first element from the **Deque** (p. 1360) assigns it to the element reference passed.

Parameters:

element Reference to an variable that can be assigned the value of the head of this **Deque** (p. 1360).

Returns:

true if an element was available to remove, false otherwise.

Implemented in **decaf::util::LinkedList< E >** (p. 1883), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1883), **decaf::util::LinkedList< CompositeTask * >** (p. 1883), **decaf::util::LinkedList< URI >** (p. 1883), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1883), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1883), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1883), **decaf::util::LinkedList< decaf::net::URI >** (p. 1883), **decaf::util::LinkedList< Pointer< Command > >** (p. 1883), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1883), **decaf::util::LinkedList< cms::Destination * >** (p. 1883), **decaf::util::LinkedList< cms::Session * >** (p. 1883), and **decaf::util::LinkedList< cms::Connection * >** (p. 1883).

6.225.3.14 template<typename E> virtual bool decaf::util::Deque< E >::pollLast (E & *element*) [pure virtual]

Removes the last element from the **Deque** (p. 1360) assigns it to the element reference passed.

Parameters:

element Reference to an variable that can be assigned the value of the tail of this **Deque** (p. 1360).

Returns:

true if an element was available to remove, false otherwise.

Implemented in **decaf::util::LinkedList< E >** (p. 1883), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1883), **decaf::util::LinkedList< CompositeTask * >** (p. 1883), **decaf::util::LinkedList< URI >** (p. 1883), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1883), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1883), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1883), **decaf::util::LinkedList< decaf::net::URI >** (p. 1883), **decaf::util::LinkedList< Pointer< Command > >** (p. 1883), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1883), **decaf::util::LinkedList< cms::Destination * >** (p. 1883), **decaf::util::LinkedList< cms::Session * >** (p. 1883), and **decaf::util::LinkedList< cms::Connection * >** (p. 1883).

6.225.3.15 template<typename E> virtual E decaf::util::Deque< E >::pop () [pure virtual]

Treats this **Deque** (p. 1360) as a stack and attempts to pop an element off the top. If there's no element to pop then a NuSuchElementException is thrown, otherwise the top element is removed and assigned to the reference passed.

This operation performs the same basic function as the removeFirst method.

Returns:

the element at the front of this deque which would be the top of a stack.

Exceptions:

NoSuchElementException *(p. 2247)* if there is nothing on the top of the stack.

Implemented in **decaf::util::LinkedList< E >** (p. 1883), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1883), **decaf::util::LinkedList< CompositeTask * >** (p. 1883), **decaf::util::LinkedList< URI >** (p. 1883), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1883), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1883), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1883), **decaf::util::LinkedList< decaf::net::URI >** (p. 1883), **decaf::util::LinkedList< Pointer< Command > >** (p. 1883), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1883), **decaf::util::LinkedList< cms::Destination * >** (p. 1883), **decaf::util::LinkedList< cms::Session * >** (p. 1883), and **decaf::util::LinkedList< cms::Connection * >** (p. 1883).

6.225.3.16 template<typename E> virtual void decaf::util::Deque< E >::push (const E & *element*) [pure virtual]

Pushes an element onto the stack represented by this deque (in other words, at the head of this deque) if it is possible to do so immediately without violating capacity restrictions, otherwise it throwing an IllegalStateException if no space is currently available. This method performs the same basic operation as the addFirst method.

Parameters:

element The element to be pushed onto the **Deque** (p. 1360).

Exceptions:

IllegalStateException if the element cannot be added at this time due to capacity restrictions

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implemented in **decaf::util::LinkedList< E >** (p. 1884), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1884), **decaf::util::LinkedList< CompositeTask * >** (p. 1884), **decaf::util::LinkedList< URI >** (p. 1884), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1884), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1884), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1884), **decaf::util::LinkedList< decaf::net::URI >** (p. 1884), **decaf::util::LinkedList< Pointer< Command > >** (p. 1884), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1884), **decaf::util::LinkedList< cms::Destination * >** (p. 1884), **decaf::util::LinkedList< cms::Session * >** (p. 1884), and **decaf::util::LinkedList< cms::Connection * >** (p. 1884).

6.225.3.17 template<typename E> virtual E decaf::util::Deque< E >::removeFirst () [pure virtual]

Removes the topmost element from the **Deque** (p. 1360) and returns it. Unlike the pollFirst method this method throws a NuSuchElementException if the **Deque** (p. 1360) is empty.

Returns:

the element at the Head of the **Deque** (p. 1360).

Exceptions:

NoSuchElementException *(p. 2247)* if the **Deque** (p. 1360) is empty.

Implemented in **decaf::util::LinkedList< E >** (p. 1885), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1885), **decaf::util::LinkedList< CompositeTask * >** (p. 1885), **decaf::util::LinkedList< URI >** (p. 1885), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1885), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1885), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1885), **decaf::util::LinkedList< decaf::net::URI >** (p. 1885), **decaf::util::LinkedList< Pointer< Command > >** (p. 1885), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1885), **decaf::util::LinkedList< cms::Destination * >** (p. 1885), **decaf::util::LinkedList< cms::Session * >** (p. 1885), and **decaf::util::LinkedList< cms::Connection * >** (p. 1885).

6.225.3.18 template<typename E> virtual bool decaf::util::Deque< E >::removeFirstOccurrence (const E & *value*) [pure virtual]

Removes the first occurrence of the specified element from this **Deque** (p. 1360). If there is no matching element then the **Deque** (p. 1360) is left unchanged.

Parameters:

value The value to be removed from this **Deque** (p. 1360).

Returns:

true if the **Deque** (p. 1360) was modified as a result of this operation.

Exceptions:

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

Implemented in **decaf::util::LinkedList< E >** (p. 1885), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1885), **decaf::util::LinkedList< CompositeTask * >** (p. 1885), **decaf::util::LinkedList< URI >** (p. 1885), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1885), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1885), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1885), **decaf::util::LinkedList< decaf::net::URI >** (p. 1885), **decaf::util::LinkedList< Pointer< Command > >** (p. 1885), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1885), **decaf::util::LinkedList< cms::Destination * >** (p. 1885), **decaf::util::LinkedList< cms::Session * >** (p. 1885), and **decaf::util::LinkedList< cms::Connection * >** (p. 1885).

6.225.3.19 template<typename E> virtual E decaf::util::Deque< E >::removeLast () [pure virtual]

Removes the last element from the **Deque** (p. 1360) and returns it. Unlike the pollLast method this method throws a NuSuchElementException if the **Deque** (p. 1360) is empty.

Returns:

the element at the Tail of the **Deque** (p. 1360).

Exceptions:

NoSuchElementException *(p. 2247)* if the **Deque** (p. 1360) is empty.

Implemented in **decaf::util::LinkedList< E >** (p. 1886), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1886), **decaf::util::LinkedList< CompositeTask * >** (p. 1886), **decaf::util::LinkedList< URI >** (p. 1886), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1886), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1886), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1886), **decaf::util::LinkedList< decaf::net::URI >** (p. 1886), **decaf::util::LinkedList< Pointer< Command > >** (p. 1886), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1886), **decaf::util::LinkedList< cms::Destination * >** (p. 1886), **decaf::util::LinkedList< cms::Session * >** (p. 1886), and **decaf::util::LinkedList< cms::Connection * >** (p. 1886).

6.225.3.20 template<typename E> virtual bool decaf::util::Deque< E >::removeLastOccurrence (const E & *value*) [pure virtual]

Removes the last occurrence of the specified element from this **Deque** (p. 1360). If there is no matching element then the **Deque** (p. 1360) is left unchanged.

Parameters:

value The value to be removed from this **Deque** (p. 1360).

Returns:

true if the **Deque** (p. 1360) was modified as a result of this operation.

Exceptions:

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

Implemented in **decaf::util::LinkedList< E >** (p. 1886), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1886), **decaf::util::LinkedList< CompositeTask * >** (p. 1886), **decaf::util::LinkedList< URI >** (p. 1886), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1886), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1886), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1886), **decaf::util::LinkedList< decaf::net::URI >** (p. 1886), **decaf::util::LinkedList< Pointer< Command > >** (p. 1886), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1886), **decaf::util::LinkedList< cms::Destination * >** (p. 1886), **decaf::util::LinkedList< cms::Session * >** (p. 1886), and **decaf::util::LinkedList< cms::Connection * >** (p. 1886).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Deque.h**

6.226 cms::Destination Class Reference

A **Destination** (p. 1371) object encapsulates a provider-specific address.

`#include <src/main/cms/Destination.h>`Inheritance diagram for cms::Destination:

Public Types

- enum **DestinationType** { **TOPIC**, **QUEUE**, **TEMPORARY_TOPIC**, **TEMPORARY_QUEUE** }

Public Member Functions

- virtual ~**Destination** ()
- virtual **DestinationType** **getDestinationType** () const =0

  *Retrieve the **Destination** (p. 1371) Type for this **Destination** (p. 1371).*

- virtual **cms::Destination** * **clone** () const =0

  Creates a new instance of this destination type that is a copy of this one, and returns it.

- virtual void **copy** (const **cms::Destination** &source)=0

  *Copies the contents of the given **Destination** (p. 1371) object to this one.*

- virtual bool **equals** (const **cms::Destination** &other) const =0

  *Compares two **Destination** (p. 1371) instances to determine if they represent the same logic **Destination** (p. 1371).*

- virtual const **CMSProperties** & **getCMSProperties** () const =0

  Retrieve any properties that might be part of the destination that was specified.

6.226.1 Detailed Description

A **Destination** (p. 1371) object encapsulates a provider-specific address. There is no standard definition of a **Destination** (p. 1371) address, each provider can provide its own definition and there can be configuration data attached to the **Destination** (p. 1371) address.

All CMS **Destination** (p. 1371) objects support concurrent use.

Since:

1.0

6.226.2 Member Enumeration Documentation

6.226.2.1 enum cms::Destination::DestinationType

Enumerator:

TOPIC

QUEUE

TEMPORARY_TOPIC

TEMPORARY_QUEUE

6.226.3 Constructor & Destructor Documentation

6.226.3.1 virtual cms::Destination::~Destination () [virtual]

6.226.4 Member Function Documentation

6.226.4.1 virtual cms::Destination* cms::Destination::clone () const [pure virtual]

Creates a new instance of this destination type that is a copy of this one, and returns it.

Returns:

cloned copy of this object

Implemented in **activemq::commands::ActiveMQQueue** (p. 416), **activemq::commands::ActiveMQTempQueue** (p. 497), **activemq::commands::ActiveMQTempTopic** (p. 505), and **activemq::commands::ActiveMQTopic** (p. 522).

Referenced by activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setCMSDestination(), and activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setCMSReplyTo().

6.226.4.2 virtual void cms::Destination::copy (const cms::Destination & *source*) [pure virtual]

Copies the contents of the given **Destination** (p. 1371) object to this one.

Parameters:

source The source **Destination** (p. 1371) object.

6.226.4.3 virtual bool cms::Destination::equals (const cms::Destination & *other*) const [pure virtual]

Compares two **Destination** (p. 1371) instances to determine if they represent the same logic **Destination** (p. 1371).

Parameters:

other The other destination to compare this one to.

Returns:

true if the two destinations are the same.

6.226.4.4 virtual const CMSProperties& cms::Destination::getCMSProperties () const [pure virtual]

Retrieve any properties that might be part of the destination that was specified. This is a deviation from the JMS spec but necessary due to C++ restrictions.

Returns:

A {const} reference to a **CMSProperties** (p. 979) object.

Implemented in **activemq::commands::ActiveMQQueue** (p. 417), **activemq::commands::ActiveMQTempQueue** (p. 498), **activemq::commands::ActiveMQTempTopic** (p. 506), and **activemq::commands::ActiveMQTopic** (p. 523).

6.226.4.5 virtual DestinationType cms::Destination::getDestinationType () const [pure virtual]

Retrieve the **Destination** (p. 1371) Type for this **Destination** (p. 1371).

Returns:

The **Destination** (p. 1371) Type

Implemented in **activemq::commands::ActiveMQQueue** (p. 417), **activemq::commands::ActiveMQTempQueue** (p. 499), **activemq::commands::ActiveMQTempTopic** (p. 507), and **activemq::commands::ActiveMQTopic** (p. 523).

The documentation for this class was generated from the following file:

- src/main/cms/**Destination.h**

6.227 activemq::commands::ActiveMQDestination::DestinationFilter Struct Reference

`#include <src/main/activemq/commands/ActiveMQDestination.h>`

Static Public Attributes

- static const std::string **ANY_CHILD**
- static const std::string **ANY_DESCENDENT**

6.227.1 Field Documentation

6.227.1.1 const std::string activemq::commands::ActiveMQDestination::DestinationFilter::ANY_CHILD [static]

6.227.1.2 const std::string activemq::commands::ActiveMQDestination::DestinationFilter::ANY_DESCENDENT [static]

The documentation for this struct was generated from the following file:

- src/main/activemq/commands/**ActiveMQDestination.h**

6.228 activemq::commands::DestinationInfo Class Reference

`#include <src/main/activemq/commands/DestinationInfo.h>`Inheritance diagram for activemq::commands::DestinationInfo:

Public Member Functions

- **DestinationInfo** ()
- virtual ~**DestinationInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **DestinationInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **ConnectionId** > & **getConnectionId** () const
- virtual **Pointer**< **ConnectionId** > & **getConnectionId** ()
- virtual void **setConnectionId** (const **Pointer**< **ConnectionId** > &**connectionId**)
- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual unsigned char **getOperationType** () const
- virtual void **setOperationType** (unsigned char **operationType**)
- virtual long long **getTimeout** () const
- virtual void **setTimeout** (long long **timeout**)
- virtual const std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** () const
- virtual std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** ()
- virtual void **setBrokerPath** (const std::vector< **decaf::lang::Pointer**< **BrokerId** > > &**brokerPath**)
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_DESTINATIONINFO** = 8

Protected Attributes

- **Pointer< ConnectionId > connectionId**
- **Pointer< ActiveMQDestination > destination**
- unsigned char **operationType**
- long long **timeout**
- std::vector< **decaf::lang::Pointer< BrokerId > > brokerPath**

6.228.1 Constructor & Destructor Documentation

6.228.1.1 activemq::commands::DestinationInfo::DestinationInfo ()

6.228.1.2 virtual activemq::commands::DestinationInfo::~DestinationInfo () [virtual]

6.228.2 Member Function Documentation

6.228.2.1 virtual DestinationInfo* activemq::commands::DestinationInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.228.2.2 virtual void activemq::commands::DestinationInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.228.2.3 virtual bool activemq::commands::DestinationInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.228.2.4 virtual std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::DestinationInfo::getBrokerPath () [virtual]

6.228.2.5 virtual const std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::DestinationInfo::getBrokerPath () const [virtual]

6.228.2.6 virtual Pointer<ConnectionId>& activemq::commands::DestinationInfo::getConnectionId () [virtual]

6.228.2.7 virtual const Pointer<ConnectionId>& activemq::commands::DestinationInfo::getConnectionId () const [virtual]

6.228.2.8 virtual unsigned char activemq::commands::DestinationInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.228.2.9 virtual Pointer<ActiveMQDestination>& activemq::commands::DestinationInfo::getDestination () [virtual]

6.228.2.10 virtual const Pointer<ActiveMQDestination>& activemq::commands::DestinationInfo::getDestination () const [virtual]

6.228.2.11 virtual unsigned char activemq::commands::DestinationInfo::getOperationType () const [virtual]

6.228.2.12 virtual long long activemq::commands::DestinationInfo::getTimeout () const [virtual]

6.228.2.13 virtual void activemq::commands::DestinationInfo::setBrokerPath (const std::vector< decaf::lang::Pointer< BrokerId > > & *brokerPath*) [virtual]

6.228.2.14 virtual void activemq::commands::DestinationInfo::setConnectionId (const Pointer< ConnectionId > & *connectionId*) [virtual]

6.228.2.15 virtual void activemq::commands::DestinationInfo::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.228.2.16 virtual void activemq::commands::DestinationInfo::setOperationType (unsigned char *operationType*) [virtual]

6.228.2.17 virtual void activemq::commands::DestinationInfo::setTimeout (long long *timeout*) [virtual]

6.228.2.18 virtual std::string activemq::commands::DestinationInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.228.2.19 virtual Pointer<Command> activemq::commands::DestinationInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.228.3 Field Documentation

6.228.3.1 std::vector< decaf::lang::Pointer<BrokerId> > activemq::commands::DestinationInfo::brokerPath [protected]

6.228.3.2 Pointer<ConnectionId> activemq::commands::DestinationInfo::connectionId [protected]

6.228.3.3 Pointer<ActiveMQDestination> activemq::commands::DestinationInfo::destination [protected]

6.228.3.4 const unsigned char activemq::commands::DestinationInfo::ID_DESTINATIONINFO = 8 [static]

6.228.3.5 unsigned char activemq::commands::DestinationInfo::operationType [protected]

6.228.3.6 long long activemq::commands::DestinationInfo::timeout [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**DestinationInfo.h**

6.229 activemq::wireformat::openwire::marshal::generated::DestinationI Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **DestinationInfoMarshaller** (p. 1380).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/DestinationInfoMarshaller.h>`In diagram for activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller:

Public Member Functions

- **DestinationInfoMarshaller** ()
- virtual ~**DestinationInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.229.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **DestinationInfoMarshaller** (p. 1380). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.229.2 Constructor & Destructor Documentation

6.229.2.1 activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller::Destinati() [inline]

6.229.2.2 virtual activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller::~Destina() [inline, virtual]

6.229.3 Member Function Documentation

6.229.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller::createObjec() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.229.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller::getDataStru() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.229.3.3 virtual void activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller::looseMarsh(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.229.3.4 virtual void activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller::looseUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.229.3.5 virtual int activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller::tightMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.229.3.6 virtual void activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller::tightMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.229.3.7 virtual void activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller::tightUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**DestinationInfoMarshaller.h**

6.230 activemq::cmsutil::DestinationResolver Class Reference

Resolves a CMS destination name to a `Destination`.

`#include <src/main/activemq/cmsutil/DestinationResolver.h>`Inheritance diagram for activemq::cmsutil::DestinationResolver:

Public Member Functions

- virtual ~**DestinationResolver** ()
- virtual void **init** (**ResourceLifecycleManager** *mgr)=0

  Initializes this destination resolver for use.

- virtual void **destroy** ()=0

  Destroys any allocated resources.

- virtual **cms::Destination** * **resolveDestinationName** (**cms::Session** *session, const std::string &destName, bool pubSubDomain)=0

  Resolves the given name to a destination.

6.230.1 Detailed Description

Resolves a CMS destination name to a `Destination`.

6.230.2 Constructor & Destructor Documentation

6.230.2.1 virtual activemq::cmsutil::DestinationResolver::~DestinationResolver () [virtual]

6.230.3 Member Function Documentation

6.230.3.1 virtual void activemq::cmsutil::DestinationResolver::destroy () [pure virtual]

Destroys any allocated resources.

Implemented in **activemq::cmsutil::DynamicDestinationResolver** (p. 1435).

6.230.3.2 virtual void activemq::cmsutil::DestinationResolver::init (ResourceLifecycleManager * *mgr*) [pure virtual]

Initializes this destination resolver for use. Ensures that any previously allocated resources are first destroyed (e.g. calls **destroy()** (p. 1384)).

Parameters:

mgr the resource lifecycle manager.

Implemented in **activemq::cmsutil::DynamicDestinationResolver** (p. 1436).

6.230.3.3 virtual cms::Destination* activemq::cmsutil::DestinationResolver::resolveDestinationName (cms::Session * *session*, const std::string & *destName*, bool *pubSubDomain*) [pure virtual]

Resolves the given name to a destination. If `pubSubDomain` is true, a topic will be returned, otherwise a queue will be returned.

Parameters:

session the session for which to retrieve resolve the destination.

destName the name to be resolved.

pubSubDomain If true, the name will be resolved to a Topic, otherwise a Queue.

Returns:

the resolved destination

Exceptions:

cms::CMSException (p. ***973***) if resolution failed.

Implemented in **activemq::cmsutil::DynamicDestinationResolver** (p. 1436).

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**DestinationResolver.h**

6.231 decaf::security::DigestException Class Reference

`#include <src/main/decaf/security/DigestException.h>`Inheritance diagram for decaf::security::DigestException:

Public Member Functions

- **DigestException** ()

  Default Constructor.

- **DigestException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **DigestException** (const **DigestException** &ex)

  Copy Constructor.

- **DigestException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **DigestException** (const std::exception *cause)

  Constructor.

- **DigestException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **DigestException** * **clone** () const

  Clones this exception.

- virtual ~**DigestException** () throw ()

6.231.1 Constructor & Destructor Documentation

6.231.1.1 decaf::security::DigestException::DigestException ()

Default Constructor.

6.231.1.2 decaf::security::DigestException::DigestException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.231.1.3 decaf::security::DigestException::DigestException (const DigestException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.231.1.4 decaf::security::DigestException::DigestException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.231.1.5 decaf::security::DigestException::DigestException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.231.1.6 decaf::security::DigestException::DigestException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.231.1.7 virtual decaf::security::DigestException::~DigestException () throw () [virtual]

6.231.2 Member Function Documentation

6.231.2.1 virtual DigestException* decaf::security::DigestException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::GeneralSecurityException** (p. 1572).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**DigestException.h**

6.232 decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy Class Reference

Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute** (p. 3039) this class always destroys the oldest unexecuted task in the **Queue** (p. 2500) and then attempts to execute the rejected task using the passed in executor.

`#include <src/main/decaf/util/concurrent/ThreadPoolExecutor.h>`Inheritance diagram for decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy:

Public Member Functions

- **DiscardOldestPolicy** ()
- virtual ~**DiscardOldestPolicy** ()
- virtual void **rejectedExecution** (**decaf::lang::Runnable** *task, **ThreadPoolExecutor** *executer)

  *Method that may be invoked by a **ThreadPoolExecutor** (p. 3031) when **execute** (p. 3039) cannot accept a task.*

6.232.1 Detailed Description

Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute** (p. 3039) this class always destroys the oldest unexecuted task in the **Queue** (p. 2500) and then attempts to execute the rejected task using the passed in executor.

Since:

1.0

6.232.2 Constructor & Destructor Documentation

6.232.2.1 decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy::DiscardOldestPolicy () `[inline]`

6.232.2.2 virtual decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy::~DiscardOldestPolicy () `[inline, virtual]`

6.232.3 Member Function Documentation

6.232.3.1 virtual void decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy::rejectedExecution (decaf::lang::Runnable * *r*, ThreadPoolExecutor * *executer*) `[inline, virtual]`

Method that may be invoked by a **ThreadPoolExecutor** (p. 3031) when **execute** (p. 3039) cannot accept a task. This may occur when no more threads or queue slots are available because their bounds would be exceeded, or upon shutdown of the **Executor** (p. 1463).

In the absence of other alternatives, the method may throw an **RejectedExecutionException** (p. 2552), which will be propagated to the caller of **execute** (p. 3039).

Parameters:

r The pointer to the runnable task requested to be executed.

executor The pointer to the executor attempting to execute this task.

Exceptions:

RejectedExecutionException *(p. 2552)* if there is no remedy.

Implements **decaf::util::concurrent::RejectedExecutionHandler** (p. 2555).

References decaf::util::concurrent::ThreadPoolExecutor::execute(), decaf::util::concurrent::ThreadPoolExecutor::getQueue(), decaf::util::concurrent::ThreadPoolExecutor::isShutdown(), and NULL.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ThreadPoolExecutor.h**

6.233 decaf::util::concurrent::ThreadPoolExecutor::DiscardPolicy Class Reference

Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute** (p. 3039) this class always destroys the rejected task and returns quietly.

`#include <src/main/decaf/util/concurrent/ThreadPoolExecutor.h>`Inheritance diagram for decaf::util::concurrent::ThreadPoolExecutor::DiscardPolicy:

Public Member Functions

- **DiscardPolicy** ()
- virtual ~**DiscardPolicy** ()
- virtual void **rejectedExecution** (**decaf::lang::Runnable** *task, **ThreadPoolExecutor** *executer DECAF_UNUSED)

6.233.1 Detailed Description

Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute** (p. 3039) this class always destroys the rejected task and returns quietly.

Since:

1.0

6.233.2 Constructor & Destructor Documentation

6.233.2.1 decaf::util::concurrent::ThreadPoolExecutor::DiscardPolicy::DiscardPolicy () `[inline]`

6.233.2.2 virtual decaf::util::concurrent::ThreadPoolExecutor::DiscardPolicy::~DiscardPolicy () `[inline, virtual]`

6.233.3 Member Function Documentation

6.233.3.1 virtual void decaf::util::concurrent::ThreadPoolExecutor::DiscardPolicy::rejectedExecution (**decaf::lang::Runnable** * *task*, **ThreadPoolExecutor** *executer *DECAF_UNUSED*) `[inline, virtual]`

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ThreadPoolExecutor.h**

6.234 activemq::commands::DiscoveryEvent Class Reference

`#include <src/main/activemq/commands/DiscoveryEvent.h>`Inheritance diagram for activemq::commands::DiscoveryEvent:

Public Member Functions

- **DiscoveryEvent** ()
- virtual ~**DiscoveryEvent** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **DiscoveryEvent** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const std::string & **getServiceName** () const
- virtual std::string & **getServiceName** ()
- virtual void **setServiceName** (const std::string &**serviceName**)
- virtual const std::string & **getBrokerName** () const
- virtual std::string & **getBrokerName** ()
- virtual void **setBrokerName** (const std::string &**brokerName**)

Static Public Attributes

- static const unsigned char **ID_DISCOVERYEVENT** = 40

Protected Attributes

- std::string **serviceName**
- std::string **brokerName**

6.234.1 Constructor & Destructor Documentation

6.234.1.1 activemq::commands::DiscoveryEvent::DiscoveryEvent ()

6.234.1.2 virtual activemq::commands::DiscoveryEvent::~DiscoveryEvent () [virtual]

6.234.2 Member Function Documentation

6.234.2.1 virtual DiscoveryEvent* activemq::commands::DiscoveryEvent::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.234.2.2 virtual void activemq::commands::DiscoveryEvent::copyDataStructure (const DataStructure * *src*) [virtual]

6.234.2.3 virtual bool activemq::commands::DiscoveryEvent::equals (const DataStructure * *value*) const [virtual]

6.234.2.4 virtual std::string& activemq::commands::DiscoveryEvent::getBrokerName () [virtual]

6.234.2.5 virtual const std::string& activemq::commands::DiscoveryEvent::getBrokerName () const [virtual]

6.234.2.6 virtual unsigned char activemq::commands::DiscoveryEvent::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.234.2.7 virtual std::string& activemq::commands::DiscoveryEvent::getServiceName () [virtual]

6.234.2.8 virtual const std::string& activemq::commands::DiscoveryEvent::getServiceName () const [virtual]

6.234.2.9 virtual void activemq::commands::DiscoveryEvent::setBrokerName (const std::string & *brokerName*) [virtual]

6.234.2.10 virtual void activemq::commands::DiscoveryEvent::setServiceName (const std::string & *serviceName*) [virtual]

6.234.2.11 virtual std::string activemq::commands::DiscoveryEvent::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.234.3 Field Documentation

6.234.3.1 std::string activemq::commands::DiscoveryEvent::brokerName [protected]

6.234.3.2 const unsigned char activemq::commands::DiscoveryEvent::ID_DISCOVERYEVENT = 40 [static]

6.234.3.3 std::string activemq::commands::DiscoveryEvent::serviceName [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**DiscoveryEvent.h**

6.235 activemq::wireformat::openwire::marshal::generated::DiscoveryEve Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **DiscoveryEventMarshaller** (p. 1395).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/DiscoveryEventMarshaller.h>`Inh
diagram for activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller:

Public Member Functions

- **DiscoveryEventMarshaller** ()
- virtual ~**DiscoveryEventMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.235.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **DiscoveryEventMarshaller** (p. 1395). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.235.2 Constructor & Destructor Documentation

6.235.2.1 activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller::Discovery () [inline]

6.235.2.2 virtual activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller::~Discover () [inline, virtual]

6.235.3 Member Function Documentation

6.235.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller::createObjec () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.235.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller::getDataStru () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.235.3.3 virtual void activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller::looseMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.235.3.4 virtual void activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller::looseUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.235.3.5 virtual int activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller::tightMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.235.3.6 virtual void activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller::tightMarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.235.3.7 virtual void activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller::tightUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**DiscoveryEventMarshaller.h**

6.236 activemq::core::DispatchData Class Reference

Simple POCO that contains the information necessary to route a message to a specified consumer.

`#include <src/main/activemq/core/DispatchData.h>`

Public Member Functions

- **DispatchData** ()
- **DispatchData** (const **decaf::lang::Pointer< commands::ConsumerId >** &consumer, const **decaf::lang::Pointer< commands::Message >** &message)
- const **decaf::lang::Pointer< commands::ConsumerId >** & **getConsumerId** ()
- const **decaf::lang::Pointer< commands::Message >** & **getMessage** ()

6.236.1 Detailed Description

Simple POCO that contains the information necessary to route a message to a specified consumer.

6.236.2 Constructor & Destructor Documentation

6.236.2.1 activemq::core::DispatchData::DispatchData ()

6.236.2.2 activemq::core::DispatchData::DispatchData (const decaf::lang::Pointer< commands::ConsumerId > & *consumer*, const decaf::lang::Pointer< commands::Message > & *message*)

6.236.3 Member Function Documentation

6.236.3.1 const decaf::lang::Pointer<commands::ConsumerId>& activemq::core::DispatchData::getConsumerId () `[inline]`

6.236.3.2 const decaf::lang::Pointer<commands::Message>& activemq::core::DispatchData::getMessage () `[inline]`

The documentation for this class was generated from the following file:

- src/main/activemq/core/**DispatchData.h**

6.237 activemq::core::Dispatcher Class Reference

Interface for an object responsible for dispatching messages to consumers.

`#include <src/main/activemq/core/Dispatcher.h>`Inheritance diagram for activemq::core::Dispatcher:

Public Member Functions

- virtual ~**Dispatcher** ()
- virtual void **dispatch** (const **decaf::lang::Pointer**< **commands::MessageDispatch** > &message)=0

  Dispatches a message to a particular consumer.

- virtual int **getHashCode** () const =0

  HashCode method allowing ***Dispatcher*** *(p. 1400) instances to be used in HashMap etc.*

6.237.1 Detailed Description

Interface for an object responsible for dispatching messages to consumers.

6.237.2 Constructor & Destructor Documentation

6.237.2.1 virtual activemq::core::Dispatcher::~Dispatcher () [virtual]

6.237.3 Member Function Documentation

6.237.3.1 virtual void activemq::core::Dispatcher::dispatch (const decaf::lang::Pointer< commands::MessageDispatch > & *message*) [pure virtual]

Dispatches a message to a particular consumer.

Parameters:

message The message to be dispatched to a waiting consumer.

Implemented in **activemq::core::AdvisoryConsumer** (p. 550), **activemq::core::kernels::ActiveMQConsumerKernel** (p. 309), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 457).

6.237.3.2 virtual int activemq::core::Dispatcher::getHashCode () const [pure virtual]

HashCode method allowing **Dispatcher** (p. 1400) instances to be used in HashMap etc.

Returns:

hash value for this **Dispatcher** (p. 1400).

Implemented in **activemq::core::AdvisoryConsumer** (p. 550), **activemq::core::kernels::ActiveMQConsumerKernel** (p. 310), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 458).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**Dispatcher.h**

6.238 decaf::lang::Double Class Reference

`#include <src/main/decaf/lang/Double.h>`Inheritance diagram for decaf::lang::Double:

Public Member Functions

- **Double** (double value)

  *Constructs a new instance of a **Double** (p. 1402) object and assigns it the given value.*

- **Double** (const std::string &value)

  *Constructs a new **Double** (p. 1402) and attempts to convert the given string to a double value, assigning it to the new object is successful or throwing a NumberFormatException if the string is not a properly formatted double.*

- virtual ~**Double** ()
- virtual int **compareTo** (const **Double** &d) const

  *Compares this **Double** (p. 1402) instance with another.*

- bool **equals** (const **Double** &d) const
- virtual bool **operator==** (const **Double** &d) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const **Double** &d) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- virtual int **compareTo** (const double &d) const

  *Compares this **Double** (p. 1402) instance with another.*

- bool **equals** (const double &d) const
- virtual bool **operator==** (const double &d) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const double &d) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- std::string **toString** () const
- virtual double **doubleValue** () const

  Answers the double value which the receiver represents.

- virtual float **floatValue** () const

  Answers the float value which the receiver represents.

- virtual unsigned char **byteValue** () const

  Answers the byte value which the receiver represents.

- virtual short **shortValue** () const

Answers the short value which the receiver represents.

- virtual int **intValue** () const

  Answers the int value which the receiver represents.

- virtual long long **longValue** () const

  Answers the long value which the receiver represents.

- bool **isInfinite** () const
- bool **isNaN** () const

Static Public Member Functions

- static int **compare** (double d1, double d2)

  Compares the two specified double values.

- static long long **doubleToLongBits** (double value)

  Returns a representation of the specified floating-point value according to the IEEE 754 floating-point "double format" bit layout.

- static long long **doubleToRawLongBits** (double value)

  Returns a representation of the specified floating-point value according to the IEEE 754 floating-point "double format" bit layout, preserving Not-a-Number (NaN) values.

- static bool **isInfinite** (double value)
- static bool **isNaN** (double value)
- static double **longBitsToDouble** (long long bits)

  Returns the double value corresponding to a given bit representation.

- static double **parseDouble** (const std::string value)

  *Returns a new double initialized to the value represented by the specified string, as performed by the valueOf method of class **Double** (p. 1402).*

- static std::string **toHexString** (double value)

  Returns a hexadecimal string representation of the double argument.

- static std::string **toString** (double value)

  Returns a string representation of the double argument.

- static **Double valueOf** (double value)

  *Returns a **Double** (p. 1402) instance representing the specified double value.*

- static **Double valueOf** (const std::string &value)

  *Returns a **Double** (p. 1402) instance that wraps a primtive double which is parsed from the string value passed.*

Static Public Attributes

- static const int **SIZE**
  The size in bits of the primitive int type.
- static const double **MAX_VALUE**
  The maximum value that the primitive type can hold.
- static const double **MIN_VALUE**
  The minimum value that the primitive type can hold.
- static const double **NaN**
  *Constant for the Not a **Number** (p. 2256) Value.*
- static const double **POSITIVE_INFINITY**
  Constant for Positive Infinity.
- static const double **NEGATIVE_INFINITY**
  Constant for Negative Infinitiy.

6.238.1 Constructor & Destructor Documentation

6.238.1.1 decaf::lang::Double::Double (double *value*)

Constructs a new instance of a **Double** (p. 1402) object and assigns it the given value.

Parameters:

value The primitive type to wrap.

6.238.1.2 decaf::lang::Double::Double (const std::string & *value*)

Constructs a new **Double** (p. 1402) and attempts to convert the given string to a double value, assigning it to the new object is successful or throwing a NumberFormatException if the string is not a properly formatted double.

Parameters:

value The string to convert to a primitive type to wrap.

Exceptions:

NumberFormatException if the string is not a a valid double.

6.238.1.3 virtual decaf::lang::Double::~Double () [inline, virtual]

6.238.2 Member Function Documentation

6.238.2.1 virtual unsigned char decaf::lang::Double::byteValue () const [inline, virtual]

Answers the byte value which the receiver represents.

Returns:

byte the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2256).

6.238.2.2 static int decaf::lang::Double::compare (double *d1*, double *d2*) [static]

Compares the two specified double values. The sign of the integer value returned is the same as that of the integer that would be returned by the call: new Double(d1).compareTo(new Double(d2))

Parameters:

d1 - the first double to compare

d2 - the second double to compare

Returns:

the value 0 if d1 is numerically equal to d2; a value less than 0 if d1 is numerically less than d2; and a value greater than 0 if d1 is numerically greater than d2.

6.238.2.3 virtual int decaf::lang::Double::compareTo (const double & *d*) const [virtual]

Compares this **Double** (p. 1402) instance with another.

Parameters:

d - the **Double** (p. 1402) instance to be compared

Returns:

zero if this object represents the same integer value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object represents a value less than the passed in value.

Implements **decaf::lang::Comparable< double >** (p. 1031).

6.238.2.4 virtual int decaf::lang::Double::compareTo (const Double & *d*) const [virtual]

Compares this **Double** (p. 1402) instance with another.

Parameters:

d - the **Double** (p. 1402) instance to be compared

Returns:

zero if this object represents the same integer value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object repesents a value less than the passed in value.

6.238.2.5 static long long decaf::lang::Double::doubleToLongBits (double *value*) [static]

Returns a representation of the specified floating-point value according to the IEEE 754 floating-point "double format" bit layout. Bit 63 (the bit that is selected by the mask 0x8000000000000000L) represents the sign of the floating-point number. Bits 62-52 (the bits that are selected by the mask 0x7ff0000000000000L) represent the exponent. Bits 51-0 (the bits that are selected by the mask 0x000fffffffffffffL) represent the significand (sometimes called the mantissa) of the floating-point number.

If the argument is positive infinity, the result is 0x7ff0000000000000L. If the argument is negative infinity, the result is 0xfff0000000000000L. If the argument is NaN, the result is 0x7ff8000000000000L.

In all cases, the result is a long integer that, when given to the longBitsToDouble(long) method, will produce a floating-point value the same as the argument to doubleToLongBits (except all NaN values are collapsed to a single "canonical" NaN value).

Parameters:

value - double to be converted

Returns:

the long long bits that make up the double

Referenced by decaf::util::HashCode< double >::operator()().

6.238.2.6 static long long decaf::lang::Double::doubleToRawLongBits (double *value*) [static]

Returns a representation of the specified floating-point value according to the IEEE 754 floating-point "double format" bit layout, preserving Not-a-Number (NaN) values. Bit 63 (the bit that is selected by the mask 0x8000000000000000LL) represents the sign of the floating-point number. Bits 62-52 (the bits that are selected by the mask 0x7ff0000000000000L) represent the exponent. Bits 51-0 (the bits that are selected by the mask 0x000fffffffffffffL) represent the significand (sometimes called the mantissa) of the floating-point number.

If the argument is positive infinity, the result is 0x7ff0000000000000LL. If the argument is negative infinity, the result is 0xfff0000000000000LL. If the argument is NaN, the result is the long integer representing the actual NaN value. Unlike the doubleToLongBits method, doubleToRawLongBits does not collapse all the bit patterns encoding a NaN to a single "canonical" NaN value.

In all cases, the result is a long integer that, when given to the longBitsToDouble(long) method, will produce a floating-point value the same as the argument to doubleToRawLongBits.

Parameters:

value - double to be converted

Returns:

the long long bits that make up the double

6.238.2.7 virtual double decaf::lang::Double::doubleValue () const [inline, virtual]

Answers the double value which the receiver represents.

Returns:

double the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.238.2.8 bool decaf::lang::Double::equals (const double & *d*) const [inline, virtual]

Parameters:

d - the **Double** (p. 1402) object to compare against.

Returns:

true if the two **Double** (p. 1402) Objects have the same value.

Implements **decaf::lang::Comparable< double >** (p. 1032).

6.238.2.9 bool decaf::lang::Double::equals (const Double & *d*) const [inline]

Parameters:

d - the **Double** (p. 1402) object to compare against.

Returns:

true if the two **Double** (p. 1402) Objects have the same value.

6.238.2.10 virtual float decaf::lang::Double::floatValue () const [inline, virtual]

Answers the float value which the receiver represents.

Returns:

float the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.238.2.11 virtual int decaf::lang::Double::intValue () const [inline, virtual]

Answers the int value which the receiver represents.

Returns:

int the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.238.2.12 static bool decaf::lang::Double::isInfinite (double *value*) [static]

Parameters:

value - The double to check.

Returns:

true if the double is equal to infinity.

6.238.2.13 bool decaf::lang::Double::isInfinite () const

Returns:

true if the double is equal to positive infinity.

6.238.2.14 static bool decaf::lang::Double::isNaN (double *value*) [static]

Parameters:

value - The double to check.

Returns:

true if the double is equal to NaN.

6.238.2.15 bool decaf::lang::Double::isNaN () const

Returns:

true if the double is equal to NaN.

6.238.2.16 static double decaf::lang::Double::longBitsToDouble (long long *bits*) [static]

Returns the double value corresponding to a given bit representation. The argument is considered to be a representation of a floating-point value according to the IEEE 754 floating-point "double format" bit layout.

If the argument is 0x7ff0000000000000L, the result is positive infinity. If the argument is 0xfff0000000000000L, the result is negative infinity. If the argument is any value in the range 0x7ff0000000000001L through 0x7fffffffffffffffL or in the range 0xfff0000000000001L through 0xffffffffffffffffL, the result is a NaN. No IEEE 754 floating-point operation provided by C++ can distinguish between two NaN values of the same type with different bit patterns. Distinct values of NaN are only distinguishable by use of the **Double.doubleToRawLongBits** (p. 1406) method.

Parameters:

bits - the long long bits to convert to double

Returns:

the double converted from the bits

6.238.2.17 virtual long long decaf::lang::Double::longValue () const [inline, virtual]

Answers the long value which the receiver represents.

Returns:

long the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.238.2.18 virtual bool decaf::lang::Double::operator< (const double & *d*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

d - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< double >** (p. 1032).

6.238.2.19 virtual bool decaf::lang::Double::operator< (const Double & *d*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

d - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.238.2.20 virtual bool decaf::lang::Double::operator== (const double & *d*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

d - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< double >** (p. 1032).

6.238.2.21 virtual bool decaf::lang::Double::operator== (const Double & *d*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

d - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.238.2.22 static double decaf::lang::Double::parseDouble (const std::string *value*) [static]

Returns a new double initialized to the value represented by the specified string, as performed by the valueOf method of class **Double** (p. 1402).

Parameters:

value - The string to parse to an double

Returns:

a double parsed from the passed string

Exceptions:

NumberFormatException

6.238.2.23 virtual short decaf::lang::Double::shortValue () const [inline, virtual]

Answers the short value which the receiver represents.

Returns:

short the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2258).

6.238.2.24 static std::string decaf::lang::Double::toHexString (double *value*) [static]

Returns a hexadecimal string representation of the double argument. All characters mentioned below are ASCII characters.

∗ If the argument is NaN, the result is the string "NaN". ∗ Otherwise, the result is a string that represents the sign and magnitude (absolute value) of the argument. If the sign is negative, the first character of the result is '-'; if the sign is positive, no sign character appears in the result. As for the magnitude m: o If m is infinity, it is represented by the string "Infinity"; thus, positive infinity produces the result "Infinity" and negative infinity produces the result "-Infinity". o If m is zero, it is represented by the string "0x0.0p0"; thus, negative zero produces

the result "-0x0.0p0" and positive zero produces the result "0x0.0p0". o If m is a double value with a normalized representation, substrings are used to represent the significand and exponent fields. The significand is represented by the characters "0x1." followed by a lowercase hexadecimal representation of the rest of the significand as a fraction. Trailing zeros in the hexadecimal representation are removed unless all the digits are zero, in which case a single zero is used. Next, the exponent is represented by "p" followed by a decimal string of the unbiased exponent as if produced by a call to **Integer.toString** (p. 1737) on the exponent value. o If m is a double value with a subnormal representation, the significand is represented by the characters "0x0." followed by a hexadecimal representation of the rest of the significand as a fraction. Trailing zeros in the hexadecimal representation are removed. Next, the exponent is represented by "p-126". Note that there must be at least one nonzero digit in a subnormal significand.

Parameters:

value - The double to convert to a string

Returns:

the Hex formatted double string.

6.238.2.25 static std::string decaf::lang::Double::toString (double *value*) [static]

Returns a string representation of the double argument. All characters mentioned below are ASCII characters.

If the argument is NaN, the result is the string "NaN". Otherwise, the result is a string that represents the sign and magnitude (absolute value) of the argument. If the sign is negative, the first character of the result is '-'; if the sign is positive, no sign character appears in the result. As for the magnitude m: o If m is infinity, it is represented by the characters "Infinity"; thus, positive infinity produces the result "Infinity" and negative infinity produces the result "-Infinity". o If m is zero, it is represented by the characters "0.0"; thus, negative zero produces the result "-0.0" and positive zero produces the result "0.0". o If m is greater than or equal to 10-3 but less than 107, then it is represented as the integer part of m, in decimal form with no leading zeroes, followed by '.', followed by one or more decimal digits representing the fractional part of m. o If m is less than 10-3 or greater than or equal to 107, then it is represented in so-called "computerized scientific notation." Let n be the unique integer such that 10n <= m < 10n+1; then let a be the mathematically exact quotient of m and 10n so that 1 <= a < 10. The magnitude is then represented as the integer part of a, as a single decimal digit, followed by '.', followed by decimal digits representing the fractional part of a, followed by the letter 'E', followed by a representation of n as a decimal integer, as produced by the method **Integer.toString(int)** (p. 1737).

Parameters:

value - The double to convert to a string

Returns:

the formatted double string.

6.238.2.26 std::string decaf::lang::Double::toString () const

Returns:

this **Double** (p. 1402) Object as a **String** (p. 2919) Representation

6.238.2.27 static Double decaf::lang::Double::valueOf (const std::string & *value*) [static]

Returns a **Double** (p. 1402) instance that wraps a primtive double which is parsed from the string value passed.

Parameters:

value - the string to parse

Returns:

a new **Double** (p. 1402) instance wrapping the double parsed from value

Exceptions:

NumberFormatException on error.

6.238.2.28 static Double decaf::lang::Double::valueOf (double *value*) [static]

Returns a **Double** (p. 1402) instance representing the specified double value.

Parameters:

value - double to wrap

Returns:

new **Double** (p. 1402) instance wrapping the primitive value

6.238.3 Field Documentation

6.238.3.1 const double decaf::lang::Double::MAX_VALUE [static]

The maximum value that the primitive type can hold.

6.238.3.2 const double decaf::lang::Double::MIN_VALUE [static]

The minimum value that the primitive type can hold.

6.238.3.3 const double decaf::lang::Double::NaN [static]

Constant for the Not a **Number** (p. 2256) Value.

6.238.3.4 const double decaf::lang::Double::NEGATIVE_INFINITY [static]

Constant for Negative Infinitiy.

6.238.3.5 const double decaf::lang::Double::POSITIVE_INFINITY [static]

Constant for Positive Infinity.

6.238.3.6 const int decaf::lang::Double::SIZE [static]

The size in bits of the primitive int type.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Double.h**

6.239 decaf::internal::nio::DoubleArrayBuffer Class Reference

`#include <src/main/decaf/internal/nio/DoubleArrayBuffer.h>`Inheritance diagram for decaf::internal::nio::DoubleArrayBuffer:

Public Member Functions

- **DoubleArrayBuffer** (int capacity, bool readOnly=false)

  *Creates a **DoubleArrayBuffer** (p. 1414) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

- **DoubleArrayBuffer** (double *array, int size, int offset, int length, bool readOnly=false)

  *Creates a **DoubleArrayBuffer** (p. 1414) object that wraps the given array.*

- **DoubleArrayBuffer** (const **decaf::lang::Pointer**< **ByteArrayAdapter** > &array, int offset, int length, bool readOnly=false)

  Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset.

- **DoubleArrayBuffer** (const **DoubleArrayBuffer** &other)

  *Create a **DoubleArrayBuffer** (p. 1414) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.*

- virtual ~**DoubleArrayBuffer** ()
- virtual double * **array** ()

  Returns the double array that backs this buffer (optional operation).
  Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  *the array that backs this **Buffer** (p. 729).*

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual int **arrayOffset** ()

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  The offset into the backing array where index zero starts.

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual DoubleBuffer * **asReadOnlyBuffer** () const

Creates a new, read-only double buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.
If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
Returns:

The new, read-only double buffer which the caller then owns.

- virtual DoubleBuffer & **compact** ()

Compacts this buffer.
*The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.*
The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.
Returns:

*a reference to this **DoubleBuffer** (p. 1423).*
Exceptions:

***ReadOnlyBufferException** (p. 2520) if this buffer is read-only.*

- virtual DoubleBuffer * **duplicate** ()

Creates a new double buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
The new buffer will be read-only if, and only if, this buffer is read-only.
Returns:

*a new double **Buffer** (p. 729) which the caller owns.*

- virtual double **get** ()

Relative get method.
Reads the value at this buffer's current position, and then increments the position.
Returns:

the double at the current position.
Exceptions:

***BufferUnderflowException** (p. 757) if there no more data to return.*

- virtual double **get** (int index) const

Absolute get method.
Reads the value at the given index.
Parameters:

***index** The index in the **Buffer** (p. 729) where the double is to be read.*
Returns:

the double that is located at the given index.

Exceptions:

IndexOutOfBoundsException *if index is not smaller than the buffer's limit*

- virtual bool **hasArray** () const

  Tells whether or not this buffer is backed by an accessible double array.
  If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.
  Returns:

  true if, and only if, this buffer is backed by an array and is not read-only

- virtual bool **isReadOnly** () const

  Tells whether or not this buffer is read-only.
  Returns:

  true if, and only if, this buffer is read-only.

- virtual DoubleBuffer & **put** (double value)

  Writes the given doubles into this buffer at the current position, and then increments the position.
  Parameters:

  value *The doubles value to be written.*
  Returns:

  a reference to this buffer.
  Exceptions:

  BufferOverflowException *(p. 754) if this buffer's current position is not smaller than its limit.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual DoubleBuffer & **put** (int index, double value)

  Writes the given doubles into this buffer at the given index.
  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data.*
  value *The doubles to write.*
  Returns:

  a reference to this buffer
  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or the index is negative.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual DoubleBuffer * **slice** () const

  Creates a new ***DoubleBuffer*** *(p. 1423) whose content is a shared subsequence of this buffer's content.*
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the newly create ***DoubleBuffer*** *(p. 1423) which the caller owns.*

Protected Member Functions

- virtual void **setReadOnly** (bool value)

  *Sets this **DoubleArrayBuffer** (p. 1414) as Read-Only or not Read-Only.*

6.239.1 Constructor & Destructor Documentation

6.239.1.1 decaf::internal::nio::DoubleArrayBuffer::DoubleArrayBuffer (int *capacity*, bool *readOnly* = `false`)

Creates a **DoubleArrayBuffer** (p. 1414) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

size The size of the array, this is the limit we read and write to.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

IllegalArguementException if the capacity value is negative.

6.239.1.2 decaf::internal::nio::DoubleArrayBuffer::DoubleArrayBuffer (double * *array*, int *size*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a **DoubleArrayBuffer** (p. 1414) object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The actual array to wrap.

size The size of the given array.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if offset is greater than array capacity.

6.239.1.3 decaf::internal::nio::DoubleArrayBuffer::DoubleArrayBuffer (const decaf::lang::Pointer< ByteArrayAdapter > & *array*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset. The capacity and limit of the new **DoubleArrayBuffer** (p. 1414) will be that of the remaining capacity of the passed buffer.

Parameters:

array The ByteArrayAdapter to wrap.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if array is NULL

IndexOutOfBoundsException if offset + length is greater than array size.

6.239.1.4 decaf::internal::nio::DoubleArrayBuffer::DoubleArrayBuffer (const DoubleArrayBuffer & *other*)

Create a **DoubleArrayBuffer** (p. 1414) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.

Parameters:

other The **DoubleArrayBuffer** (p. 1414) this one is to mirror.

6.239.1.5 virtual decaf::internal::nio::DoubleArrayBuffer::~DoubleArrayBuffer () [virtual]

6.239.2 Member Function Documentation

6.239.2.1 virtual double* decaf::internal::nio::DoubleArrayBuffer::array () [virtual]

Returns the double array that backs this buffer (optional operation).

Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::DoubleBuffer** (p. 1426).

6.239.2.2 virtual int decaf::internal::nio::DoubleArrayBuffer::arrayOffset () [virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::DoubleBuffer** (p. 1426).

6.239.2.3 virtual DoubleBuffer* decaf::internal::nio::DoubleArrayBuffer::asReadOnlyBuffer () const [virtual]

Creates a new, read-only double buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only double buffer which the caller then owns.

Implements **decaf::nio::DoubleBuffer** (p. 1426).

6.239.2.4 virtual DoubleBuffer& decaf::internal::nio::DoubleArrayBuffer::compact () [virtual]

Compacts this buffer.

The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **DoubleBuffer** (p. 1423).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::DoubleBuffer** (p. 1427).

6.239.2.5 virtual DoubleBuffer* decaf::internal::nio::DoubleArrayBuffer::duplicate () [virtual]

Creates a new double buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new double **Buffer** (p. 729) which the caller owns.

Implements **decaf::nio::DoubleBuffer** (p. 1427).

6.239.2.6 virtual double decaf::internal::nio::DoubleArrayBuffer::get (int *index*) const [virtual]

Absolute get method.

Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the double is to be read.

Returns:

the double that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit

Implements **decaf::nio::DoubleBuffer** (p. 1428).

6.239.2.7 virtual double decaf::internal::nio::DoubleArrayBuffer::get () [virtual]

Relative get method.

Reads the value at this buffer's current position, and then increments the position.

Returns:

the double at the current position.

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there no more data to return.

Implements **decaf::nio::DoubleBuffer** (p. 1429).

6.239.2.8 virtual bool decaf::internal::nio::DoubleArrayBuffer::hasArray () const [inline, virtual]

Tells whether or not this buffer is backed by an accessible double array.

If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only

Implements **decaf::nio::DoubleBuffer** (p. 1429).

6.239.2.9 virtual bool decaf::internal::nio::DoubleArrayBuffer::isReadOnly () const [inline, virtual]

Tells whether or not this buffer is read-only.

Returns:

true if, and only if, this buffer is read-only.

Implements **decaf::nio::Buffer** (p. 732).

6.239.2.10 virtual DoubleBuffer& decaf::internal::nio::DoubleArrayBuffer::put (int *index*, double *value*) [virtual]

Writes the given doubles into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The doubles to write.

Returns:

a reference to this buffer

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or the index is negative.

ReadOnlyBufferException *(*p. ***2520)*** if this buffer is read-only.

Implements **decaf::nio::DoubleBuffer** (p. 1429).

6.239.2.11 virtual DoubleBuffer& decaf::internal::nio::DoubleArrayBuffer::put (double *value*) [virtual]

Writes the given doubles into this buffer at the current position, and then increments the position.

Parameters:

value The doubles value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if this buffer's current position is not smaller than its limit.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::DoubleBuffer** (p. 1430).

6.239.2.12 virtual void decaf::internal::nio::DoubleArrayBuffer::setReadOnly (bool *value*) [inline, protected, virtual]

Sets this **DoubleArrayBuffer** (p. 1414) as Read-Only or not Read-Only.

Parameters:

value Boolean value, true if this buffer is to be read-only, false otherwise.

6.239.2.13 virtual DoubleBuffer* decaf::internal::nio::DoubleArrayBuffer::slice () const [virtual]

Creates a new **DoubleBuffer** (p. 1423) whose content is a shared subsequence of this buffer's content.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **DoubleBuffer** (p. 1423) which the caller owns.

Implements **decaf::nio::DoubleBuffer** (p. 1431).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/nio/**DoubleArrayBuffer.h**

6.240 decaf::nio::DoubleBuffer Class Reference

This class defines four categories of operations upon double buffers:.

`#include <src/main/decaf/nio/DoubleBuffer.h>`Inheritance diagram for decaf::nio::DoubleBuffer:

Public Member Functions

- virtual ~**DoubleBuffer** ()
- virtual std::string **toString** () const
- virtual double * **array** ()=0

  Returns the double array that backs this buffer (optional operation).

- virtual int **arrayOffset** ()=0

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

- virtual **DoubleBuffer** * **asReadOnlyBuffer** () const =0

  Creates a new, read-only double buffer that shares this buffer's content.

- virtual **DoubleBuffer** & **compact** ()=0

  Compacts this buffer.

- virtual **DoubleBuffer** * **duplicate** ()=0

  Creates a new double buffer that shares this buffer's content.

- virtual double **get** ()=0

  Relative get method.

- virtual double **get** (int index) const =0

  Absolute get method.

- **DoubleBuffer** & **get** (std::vector< double > buffer)

  Relative bulk get method.

- **DoubleBuffer** & **get** (double *buffer, int size, int offset, int length)

  Relative bulk get method.

- virtual bool **hasArray** () const =0

  Tells whether or not this buffer is backed by an accessible double array.

- **DoubleBuffer** & **put** (**DoubleBuffer** &src)

  This method transfers the doubles remaining in the given source buffer into this buffer.

- **DoubleBuffer** & **put** (const double *buffer, int size, int offset, int length)

  This method transfers doubles into this buffer from the given source array.

- **DoubleBuffer** & **put** (std::vector< double > &buffer)

  This method transfers the entire content of the given source doubles array into this buffer.

- virtual **DoubleBuffer** & **put** (double value)=0

  Writes the given doubles into this buffer at the current position, and then increments the position.

- virtual **DoubleBuffer** & **put** (int index, double value)=0

  Writes the given doubles into this buffer at the given index.

- virtual **DoubleBuffer** * **slice** () const =0

  *Creates a new **DoubleBuffer** (p. 1423) whose content is a shared subsequence of this buffer's content.*

- virtual int **compareTo** (const **DoubleBuffer** &value) const

- virtual bool **equals** (const **DoubleBuffer** &value) const

- virtual bool **operator==** (const **DoubleBuffer** &value) const

- virtual bool **operator<** (const **DoubleBuffer** &value) const

Static Public Member Functions

- static **DoubleBuffer** * **allocate** (int capacity)

  *Allocates a new **DoubleBuffer** (p. 1423).*

- static **DoubleBuffer** * **wrap** (double *array, int size, int offset, int length)

  *Wraps the passed buffer with a new **DoubleBuffer** (p. 1423).*

- static **DoubleBuffer** * **wrap** (std::vector< double > &buffer)

  *Wraps the passed STL double Vector in a **DoubleBuffer** (p. 1423).*

Protected Member Functions

- **DoubleBuffer** (int capacity)

  *Creates a **DoubleBuffer** (p. 1423) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

6.240.1 Detailed Description

This class defines four categories of operations upon double buffers:. o Absolute and relative get and put methods that read and write single doubles; o Relative bulk get methods that transfer contiguous sequences of doubles from this buffer into an array; and o Relative bulk put methods that transfer contiguous sequences of doubles from a double array or some other double buffer into this buffer o Methods for compacting, duplicating, and slicing a double buffer.

Double buffers can be created either by allocation, which allocates space for the buffer's content, by wrapping an existing double array into a buffer, or by creating a view of an existing byte buffer

Methods in this class that do not otherwise have a value to return are specified to return the buffer upon which they are invoked. This allows method invocations to be chained.

Since:

1.0

6.240.2 Constructor & Destructor Documentation

6.240.2.1 decaf::nio::DoubleBuffer::DoubleBuffer (int *capacity*) [protected]

Creates a **DoubleBuffer** (p. 1423) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

capacity The size and limit of the **Buffer** (p. 729) in doubles

Exceptions:

IllegalArguementException if capacity is negative.

6.240.2.2 virtual decaf::nio::DoubleBuffer::~DoubleBuffer () [inline, virtual]

6.240.3 Member Function Documentation

6.240.3.1 static DoubleBuffer* decaf::nio::DoubleBuffer::allocate (int *capacity*) [static]

Allocates a new **DoubleBuffer** (p. 1423). The new buffer's position will be zero, its limit will be its capacity, and its mark will be undefined. It will have a backing array, and its array offset will be zero.

Parameters:

capacity The size of the Double buffer in doubles.

Returns:

the **DoubleBuffer** (p. 1423) that was allocated, caller owns.

Exceptions:

IllegalArgumentException is the capacity value is negative.

6.240.3.2 virtual double* decaf::nio::DoubleBuffer::array () [pure virtual]

Returns the double array that backs this buffer (optional operation). Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1418).

6.240.3.3 virtual int decaf::nio::DoubleBuffer::arrayOffset () [pure virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation). Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1419).

6.240.3.4 virtual DoubleBuffer* decaf::nio::DoubleBuffer::asReadOnlyBuffer () const [pure virtual]

Creates a new, read-only double buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only double buffer which the caller then owns.

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1419).

6.240.3.5 virtual DoubleBuffer& decaf::nio::DoubleBuffer::compact () [pure virtual]

Compacts this buffer. The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **DoubleBuffer** (p. 1423).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1419).

6.240.3.6 virtual int decaf::nio::DoubleBuffer::compareTo (const DoubleBuffer & *value*) const [virtual]

6.240.3.7 virtual DoubleBuffer* decaf::nio::DoubleBuffer::duplicate () [pure virtual]

Creates a new double buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new double **Buffer** (p. 729) which the caller owns.

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1420).

6.240.3.8 virtual bool decaf::nio::DoubleBuffer::equals (const DoubleBuffer & *value*) const [virtual]

6.240.3.9 DoubleBuffer& decaf::nio::DoubleBuffer::get (double * *buffer*, int *size*, int *offset*, int *length*)

Relative bulk get method. This method transfers doubles from this buffer into the given destination array. If there are fewer doubles remaining in the buffer than are required to satisfy the request, that is, if length > **remaining()** (p. 734), then no bytes are transferred and a **BufferUnderflowException** (p. 757) is thrown.

Otherwise, this method copies length doubles from this buffer into the given array, starting at the current position of this buffer and at the given offset in the array. The position of this buffer is then incremented by length.

Parameters:

buffer The pointer to an allocated buffer to fill.

size The size of the buffer passed.

offset The position in the buffer to start filling.

length The amount of data to put in the passed buffer.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there are fewer than length doubles remaining in this buffer

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.240.3.10 DoubleBuffer& decaf::nio::DoubleBuffer::get (std::vector< double > *buffer*)

Relative bulk get method. This method transfers values from this buffer into the given destination vector. An invocation of this method of the form src.get(a) behaves in exactly the same way as the invocation. The vector must be sized to the amount of data that is to be read, that is to say, the caller should call buffer.resize(N) before calling this get method.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(*p. ***757)*** iIf there are fewer than length doubles remaining in this buffer

6.240.3.11 virtual double decaf::nio::DoubleBuffer::get (int *index*) const [pure virtual]

Absolute get method. Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the double is to be read.

Returns:

the double that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1420).

6.240.3.12 virtual double decaf::nio::DoubleBuffer::get () [pure virtual]

Relative get method. Reads the value at this buffer's current position, and then increments the position.

Returns:

the double at the current position.

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there no more data to return.

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1420).

6.240.3.13 virtual bool decaf::nio::DoubleBuffer::hasArray () const [pure virtual]

Tells whether or not this buffer is backed by an accessible double array. If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1421).

6.240.3.14 virtual bool decaf::nio::DoubleBuffer::operator< (const DoubleBuffer & *value*) const [virtual]

6.240.3.15 virtual bool decaf::nio::DoubleBuffer::operator== (const DoubleBuffer & *value*) const [virtual]

6.240.3.16 virtual DoubleBuffer& decaf::nio::DoubleBuffer::put (int *index*, double *value*) [pure virtual]

Writes the given doubles into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The doubles to write.

Returns:

a reference to this buffer

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or the index is negative.

ReadOnlyBufferException *(*p. ***2520)*** if this buffer is read-only.

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1421).

6.240.3.17 virtual DoubleBuffer& decaf::nio::DoubleBuffer::put (double *value*) [pure virtual]

Writes the given doubles into this buffer at the current position, and then increments the position.

Parameters:

value The doubles value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. ***754****)* if this buffer's current position is not smaller than its limit.

ReadOnlyBufferException *(*p. ***2520****)* if this buffer is read-only.

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1422).

6.240.3.18 DoubleBuffer& decaf::nio::DoubleBuffer::put (std::vector< double > & *buffer*)

This method transfers the entire content of the given source doubles array into this buffer. This is the same as calling put(&buffer[0], 0, buffer.size().

Parameters:

buffer The buffer whose contents are copied to this **DoubleBuffer** (p. 1423).

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. ***754****)* if there is insufficient space in this buffer.

ReadOnlyBufferException *(*p. ***2520****)* if this buffer is read-only.

6.240.3.19 DoubleBuffer& decaf::nio::DoubleBuffer::put (const double * *buffer*, int *size*, int *offset*, int *length*)

This method transfers doubles into this buffer from the given source array. If there are more doubles to be copied from the array than remain in this buffer, that is, if length > **remaining()** (p. 734), then no doubles are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies length bytes from the given array into this buffer, starting at the given offset in the array and at the current position of this buffer. The position of this buffer is then incremented by length.

Parameters:

buffer The array from which doubles are to be read.

size The size of the buffer passed.

offset The offset within the array of the first char to be read.

length The number of doubles to be read from the given array.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. *754)* if there is insufficient space in this buffer

ReadOnlyBufferException *(*p. *2520)* if this buffer is read-only

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.240.3.20 DoubleBuffer& decaf::nio::DoubleBuffer::put (DoubleBuffer & *src*)

This method transfers the doubles remaining in the given source buffer into this buffer. If there are more doubles remaining in the source buffer than in this buffer, that is, if src.remaining() > **remaining()** (p. 734), then no doubles are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies n = src.remaining() doubles from the given buffer into this buffer, starting at each buffer's current position. The positions of both buffers are then incremented by n.

Parameters:

src The buffer to take doubles from an place in this one.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. *754)* if there is insufficient space in this buffer for the remaining doubles in the source buffer

IllegalArgumentException if the source buffer is this buffer.

ReadOnlyBufferException *(*p. *2520)* if this buffer is read-only.

6.240.3.21 virtual DoubleBuffer* decaf::nio::DoubleBuffer::slice () const [pure virtual]

Creates a new **DoubleBuffer** (p. 1423) whose content is a shared subsequence of this buffer's content. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **DoubleBuffer** (p. 1423) which the caller owns.

Implemented in **decaf::internal::nio::DoubleArrayBuffer** (p. 1422).

6.240.3.22 virtual std::string decaf::nio::DoubleBuffer::toString () const [virtual]

Returns:

a std::string describing this object

6.240.3.23 static DoubleBuffer* decaf::nio::DoubleBuffer::wrap (std::vector< double > & *buffer*) [static]

Wraps the passed STL double Vector in a **DoubleBuffer** (p. 1423). The new buffer will be backed by the given double array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new **DoubleBuffer** (p. 1423) that is backed by buffer, caller owns.

6.240.3.24 static DoubleBuffer* decaf::nio::DoubleBuffer::wrap (double * *array*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new **DoubleBuffer** (p. 1423). The new buffer will be backed by the given double array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

array The array that will back the new buffer.

size The size of the passed in array.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new **DoubleBuffer** (p. 1423) that is backed by buffer, caller owns.

Exceptions:

NullPointerException if the array pointer is NULL.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**DoubleBuffer.h**

6.241 decaf::lang::DYNAMIC_CAST_TOKEN Struct Reference

`#include <src/main/decaf/lang/Pointer.h>`

The documentation for this struct was generated from the following file:

- src/main/decaf/lang/**Pointer.h**

6.242 activemq::cmsutil::DynamicDestinationResolver Class Reference

Resolves a CMS destination name to a `Destination`.

`#include <src/main/activemq/cmsutil/DynamicDestinationResolver.h>`Inheritance diagram for activemq::cmsutil::DynamicDestinationResolver:

Data Structures

- class **SessionResolver**

  Manages maps of names to topics and queues for a single session.

Public Member Functions

- **DynamicDestinationResolver** ()
- virtual ~**DynamicDestinationResolver** ()
- virtual void **init** (**ResourceLifecycleManager** *mgr)

  Initializes this destination resolver for use.

- virtual void **destroy** ()

  Destroys any allocated resources.

- virtual **cms::Destination** * **resolveDestinationName** (**cms::Session** *session, const std::string &destName, bool pubSubDomain)

  Resolves the given name to a destination.

6.242.1 Detailed Description

Resolves a CMS destination name to a `Destination`.

6.242.2 Constructor & Destructor Documentation

6.242.2.1 activemq::cmsutil::DynamicDestinationResolver::DynamicDestinationResolver ()

6.242.2.2 virtual activemq::cmsutil::DynamicDestinationResolver::~DynamicDestinationResolver () `[virtual]`

6.242.3 Member Function Documentation

6.242.3.1 virtual void activemq::cmsutil::DynamicDestinationResolver::destroy () `[virtual]`

Destroys any allocated resources.

Implements **activemq::cmsutil::DestinationResolver** (p. 1384).

6.242.3.2 virtual void activemq::cmsutil::DynamicDestinationResolver::init (ResourceLifecycleManager * *mgr*) [inline, virtual]

Initializes this destination resolver for use. Ensures that any previously allocated resources are first destroyed (e.g. calls **destroy()** (p. 1435)).

Parameters:

mgr the resource lifecycle manager.

Implements **activemq::cmsutil::DestinationResolver** (p. 1384).

6.242.3.3 virtual cms::Destination* activemq::cmsutil::DynamicDestinationResolver::resolveDestinationName (cms::Session * *session*, const std::string & *destName*, bool *pubSubDomain*) [virtual]

Resolves the given name to a destination. If `pubSubDomain` is true, a topic will be returned, otherwise a queue will be returned.

Parameters:

session the session for which to retrieve resolve the destination.

destName the name to be resolved.

pubSubDomain If true, the name will be resolved to a Topic, otherwise a Queue.

Returns:

the resolved destination

Exceptions:

cms::CMSException (p. ***973***) if resolution failed.

Implements **activemq::cmsutil::DestinationResolver** (p. 1385).

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**DynamicDestinationResolver.h**

6.243 decaf::internal::security::Engine Class Reference

The **Engine** (p. 1437) class serves as a convenience class for classes in the Decaf Security package.

`#include <src/main/decaf/internal/security/Engine.h>`

Public Member Functions

- **Engine** (const std::string &serviceName)
- virtual ~**Engine** ()
- std::string **getServiceName** () const

  *Returns the name of the service type that this **Engine** (p. 1437) will be a builder of SecuritySpi instances for.*

- const **decaf::security::Provider** * **getProvider** () const

  *Returns the Provider associated with this **Engine** (p. 1437).*

- **decaf::security::SecuritySpi** * **newInstance** (const std::string &algorithmName)

  Return a new instance of the SercuritySpi implementation that is named by this engine's serviceName and the passed algorithmName.

6.243.1 Detailed Description

The **Engine** (p. 1437) class serves as a convenience class for classes in the Decaf Security package. An engine can be created for a given service type, "MessageDigest" for instance and reused to create different algorithms for that type. The **Engine** (p. 1437) class takes care of the details of looking up a ProviderService in the Security Runtime, using correct locking and exception handling so that the higher level classes don't need to implement that logic over again.

6.243.2 Constructor & Destructor Documentation

6.243.2.1 decaf::internal::security::Engine::Engine (const std::string & *serviceName*)

6.243.2.2 virtual decaf::internal::security::Engine::~Engine () `[virtual]`

6.243.3 Member Function Documentation

6.243.3.1 const decaf::security::Provider* decaf::internal::security::Engine::getProvider () const `[inline]`

Returns the Provider associated with this **Engine** (p. 1437). The pointer returned by this method remains the property of the Security framework and should be deleted by the calling application at any time.

Returns:

the **provider** (p. 104) associated with this MessageDigest.

6.243.3.2 std::string decaf::internal::security::Engine::getServiceName () const [inline]

Returns the name of the service type that this **Engine** (p. 1437) will be a builder of SecuritySpi instances for.

Returns:

the service class name of this engine, e.g. MessageDigest.

6.243.3.3 decaf::security::SecuritySpi* decaf::internal::security::Engine::newInstance (const std::string & *algorithmName*)

Return a new instance of the SercuritySpi implementation that is named by this engine's serviceName and the passed algorithmName.

Returns:

a new instance of the SecuritySpi provided by serviceName.algorithmName

The documentation for this class was generated from the following file:

- src/main/decaf/internal/security/**Engine.h**

6.244 decaf::io::EOFException Class Reference

`#include <src/main/decaf/io/EOFException.h>`Inheritance diagram for decaf::io::EOFException:

Public Member Functions

- **EOFException** ()

  Default Constructor.

- **EOFException** (const **lang::Exception** &ex)

  Copy Constructor.

- **EOFException** (const **EOFException** &ex)

  Copy Constructor.

- **EOFException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **EOFException** (const std::exception *cause)

  Constructor.

- **EOFException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor.

- virtual **EOFException** * **clone** () const

  Clones this exception.

- virtual ~**EOFException** () throw ()

6.244.1 Constructor & Destructor Documentation

6.244.1.1 decaf::io::EOFException::EOFException ()

Default Constructor.

6.244.1.2 decaf::io::EOFException::EOFException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.244.1.3 decaf::io::EOFException::EOFException (const EOFException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.244.1.4 decaf::io::EOFException::EOFException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.244.1.5 decaf::io::EOFException::EOFException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.244.1.6 decaf::io::EOFException::EOFException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.244.1.7 virtual decaf::io::EOFException::~EOFException () throw () [virtual]

6.244.2 Member Function Documentation

6.244.2.1 virtual EOFException* decaf::io::EOFException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new instance of an Exception that is a copy of this one.

Reimplemented from **decaf::io::IOException** (p. 1775).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**EOFException.h**

6.245 decaf::util::logging::ErrorManager Class Reference

ErrorManager (p. 1442) objects can be attached to Handlers to process any error that occur on a **Handler** (p. 1577) during Logging.

`#include <src/main/decaf/util/logging/ErrorManager.h>`

Public Member Functions

- **ErrorManager** ()
- virtual ~**ErrorManager** ()
- virtual void **error** (const std::string &message, **decaf::lang::Exception** *ex, int **code**)

  *The error method is called when a **Handler** (p. 1577) failure occurs.*

Static Public Attributes

- static const int **GENERIC_FAILURE**

  GENERIC_FAILURE is used for failure that don't fit into one of the other categories.

- static const int **WRITE_FAILURE**

  WRITE_FAILURE is used when a write to an output stream fails.

- static const int **FLUSH_FAILURE**

  FLUSH_FAILURE is used when a flush to an output stream fails.

- static const int **CLOSE_FAILURE**

  CLOSE_FAILURE is used when a close of an output stream fails.

- static const int **OPEN_FAILURE**

  OPEN_FAILURE is used when an open of an output stream fails.

- static const int **FORMAT_FAILURE**

  FORMAT_FAILURE is used when formatting fails for any reason.

6.245.1 Detailed Description

ErrorManager (p. 1442) objects can be attached to Handlers to process any error that occur on a **Handler** (p. 1577) during Logging. When processing **logging** (p. 134) output, if a **Handler** (p. 1577) encounters problems then rather than throwing an Exception back to the issuer of the **logging** (p. 134) call (who is unlikely to be interested) the **Handler** (p. 1577) should call its associated **ErrorManager** (p. 1442).

Since:

1.0

6.245.2 Constructor & Destructor Documentation

6.245.2.1 decaf::util::logging::ErrorManager::ErrorManager ()

6.245.2.2 virtual decaf::util::logging::ErrorManager::~ErrorManager () [virtual]

6.245.3 Member Function Documentation

6.245.3.1 virtual void decaf::util::logging::ErrorManager::error (const std::string & *message*, decaf::lang::Exception * *ex*, int *code*) [virtual]

The error method is called when a **Handler** (p. 1577) failure occurs. This method may be overridden in subclasses. The default behavior in this base class is that the first call is reported to System.err, and subsequent calls are ignored.

Parameters:

msg - a descriptive string (may be empty)

ex - an exception (may be NULL)

code *(p. **999**)* - an error **code** (p. 999) defined in **ErrorManager** (p. 1442)

6.245.4 Field Documentation

6.245.4.1 const int decaf::util::logging::ErrorManager::CLOSE_FAILURE [static]

CLOSE_FAILURE is used when a close of an output stream fails.

6.245.4.2 const int decaf::util::logging::ErrorManager::FLUSH_FAILURE [static]

FLUSH_FAILURE is used when a flush to an output stream fails.

6.245.4.3 const int decaf::util::logging::ErrorManager::FORMAT_FAILURE [static]

FORMAT_FAILURE is used when formatting fails for any reason.

6.245.4.4 const int decaf::util::logging::ErrorManager::GENERIC_FAILURE [static]

GENERIC_FAILURE is used for failure that don't fit into one of the other categories.

6.245.4.5 const int decaf::util::logging::ErrorManager::OPEN_FAILURE [static]

OPEN_FAILURE is used when an open of an output stream fails.

6.245.4.6 const int decaf::util::logging::ErrorManager::WRITE_FAILURE [static]

WRITE_FAILURE is used when a write to an output stream fails.

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**ErrorManager.h**

6.246 decaf::lang::Exception Class Reference

`#include <src/main/decaf/lang/Exception.h>`Inheritance diagram for decaf::lang::Exception:

Public Member Functions

- **Exception** ()

  Default Constructor.

- **Exception** (const **Exception** &ex)

  Copy Constructor.

- **Exception** (const std::exception *cause)

  Constructor.

- **Exception** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **Exception** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual ~**Exception** () throw ()
- virtual std::string **getMessage** () const

  Gets the message for this exception.

- virtual const std::exception * **getCause** () const

  *Gets the exception that caused this one to be thrown, this allows for chaining of **exceptions** (p. 115) in the case of a method that throws only a particular exception but wishes to allow for the real causal exception to be passed only in case the caller knows about that type of exception and wishes to respond to it.*

- virtual void **initCause** (const std::exception *cause)

  Initializes the contained cause exception with the one given.

- virtual const char * **what** () const throw ()

  Implement method from std::exception.

- virtual void **setMessage** (const char *msg,...)

  Sets the cause for this exception.

- virtual void **setMark** (const char *file, const int lineNumber)

  Adds a file/line number to the stack trace.

- virtual **Exception** * **clone** () const

  Clones this exception.

- virtual std::vector< std::pair< std::string, int > > **getStackTrace** () const

  Provides the stack trace for every point where this exception was caught, marked, and rethrown.

- virtual void **printStackTrace** () const

  Prints the stack trace to std::err.

- virtual void **printStackTrace** (std::ostream &stream) const

  Prints the stack trace to the given output stream.

- virtual std::string **getStackTraceString** () const

  Gets the stack trace as one contiguous string.

- **Exception** & **operator**= (const **Exception** &ex)

  Assignment operator, copies one ***Exception*** *(p. 1445) to another.*

Protected Member Functions

- virtual void **setStackTrace** (const std::vector< std::pair< std::string, int > > &trace)
- virtual void **buildMessage** (const char *format, va_list &vargs)

Protected Attributes

- ExceptionData * **data**

6.246.1 Constructor & Destructor Documentation

6.246.1.1 decaf::lang::Exception::Exception ()

Default Constructor.

6.246.1.2 decaf::lang::Exception::Exception (const Exception & *ex*)

Copy Constructor.

Parameters:

ex The `Exception` (p. 1445) instance to copy.

6.246.1.3 decaf::lang::Exception::Exception (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the caller must ensure that it passes a valid pointer as this object takes ownership of the exception.

6.246.1.4 decaf::lang::Exception::Exception (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.246.1.5 decaf::lang::Exception::Exception (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.246.1.6 virtual decaf::lang::Exception::~Exception () throw () [virtual]

6.246.2 Member Function Documentation

6.246.2.1 virtual void decaf::lang::Exception::buildMessage (const char * *format*, va_list & *vargs*) [protected, virtual]

6.246.2.2 virtual Exception* decaf::lang::Exception::clone () const [virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

Copy of this **Exception** (p. 1445) object

Implements **decaf::lang::Throwable** (p. 3048).

Reimplemented in **activemq::exceptions::ActiveMQException** (p. 336), **activemq::exceptions::BrokerException** (p. 708), **activemq::exceptions::ConnectionFailedException** (p. 1113), **decaf::internal::net::ssl::openssl::OpenSSLSocketException** (p. 2295), **decaf::io::EOFException** (p. 1440), **decaf::io::InterruptedIOException** (p. 1758),

decaf::io::IOException (p. 1775), **decaf::io::UnsupportedEncodingException** (p. 3146), **decaf::io::UTFDataFormatException** (p. 3202), **decaf::lang::exceptions::ClassCastException** (p. 955), **decaf::lang::exceptions::CloneNotSupportedException** (p. 958), **decaf::lang::exceptions::IllegalArgumentException** (p. 1641), **decaf::lang::exceptions::IllegalMonitorStateException** (p. 1644), **decaf::lang::exceptions::IllegalStateException** (p. 1649), **decaf::lang::exceptions::IllegalThreadStateException** (p. 1652), **decaf::lang::exceptions::IndexOutOfBoundsException** (p. 1659), **decaf::lang::exceptions::InterruptedException** (p. 1755), **decaf::lang::exceptions::InvalidStateException** (p. 1773), **decaf::lang::exceptions::NegativeArraySizeException** (p. 2230), **decaf::lang::exceptions::NullPointerException** (p. 2255), **decaf::lang::exceptions::NumberFormatException** (p. 2261), **decaf::lang::exceptions::OutOfMemoryError** (p. 2332), **decaf::lang::exceptions::RuntimeException** (p. 2613), **decaf::lang::exceptions::UnsupportedOperationExce** (p. 3149), **decaf::net::BindException** (p. 669), **decaf::net::ConnectException** (p. 1082), **decaf::net::HttpRetryException** (p. 1636), **decaf::net::MalformedURLException** (p. 1994), **decaf::net::NoRouteToHostException** (p. 2243), **decaf::net::PortUnreachableException** (p. 2381), **decaf::net::ProtocolException** (p. 2484), **decaf::net::SocketException** (p. 2773), **decaf::net::SocketTimeoutException** (p. 2794), **decaf::net::UnknownHostException** (p. 3140), **decaf::net::UnknownServiceException** (p. 3143), **decaf::net::URISyntaxException** (p. 3184), **decaf::nio::BufferOverflowException** (p. 756), **decaf::nio::BufferUnderflowException** (p. 759), **decaf::nio::InvalidMarkException** (p. 1768), **decaf::nio::ReadOnlyBufferException** (p. 2522), **decaf::security::cert::CertificateEncodingException** (p. 895), **decaf::security::cert::CertificateException** (p. 898), **decaf::security::cert::CertificateExpiredException** (p. 901), **decaf::security::cert::CertificateNotYetValidException** (p. 904), **decaf::security::cert::CertificateParsingException** (p. 907), **decaf::security::DigestException** (p. 1388), **decaf::security::GeneralSecurityException** (p. 1572), **decaf::security::InvalidKeyException** (p. 1765), **decaf::security::KeyException** (p. 1832), **decaf::security::KeyManagementException** (p. 1835), **decaf::security::NoSuchAlgorithmException** (p. 2246), **decaf::security::NoSuchProviderException** (p. 2252), **decaf::security::ProviderException** (p. 2489), **decaf::security::SignatureException** (p. 2743), **decaf::util::concurrent::BrokenBarrierException** (p. 702), **decaf::util::concurrent::CancellationException** (p. 888), **decaf::util::concurrent::ExecutionException** (p. 1462), **decaf::util::concurrent::RejectedExecutionException** (p. 2554), **decaf::util::concurrent::TimeoutException** (p. 3054), **decaf::util::ConcurrentModificationException** (p. 1052), **decaf::util::NoSuchElementException** (p. 2249), **decaf::util::zip::DataFormatException** (p. 1241), and **decaf::util::zip::ZipException** (p. 3283).

6.246.2.3 virtual const std::exception* decaf::lang::Exception::getCause () const [virtual]

Gets the exception that caused this one to be thrown, this allows for chaining of **exceptions** (p. 115) in the case of a method that throws only a particular exception but wishes to allow for the real causal exception to be passed only in case the caller knows about that type of exception and wishes to respond to it.

Returns:

a const pointer reference to the causal exception, if there was no cause associated with this exception then NULL is returned.

Implements **decaf::lang::Throwable** (p. 3049).

6.246.2.4 virtual std::string decaf::lang::Exception::getMessage () const [virtual]

Gets the message for this exception.

Returns:

Text formatted error message

Implements **decaf::lang::Throwable** (p. 3049).

6.246.2.5 virtual std::vector< std::pair< std::string, int> > decaf::lang::Exception::getStackTrace () const [virtual]

Provides the stack trace for every point where this exception was caught, marked, and rethrown. The first item in the returned vector is the first point where the mark was set (e.g. where the exception was created).

Returns:

the stack trace.

Implements **decaf::lang::Throwable** (p. 3049).

6.246.2.6 virtual std::string decaf::lang::Exception::getStackTraceString () const [virtual]

Gets the stack trace as one contiguous string.

Returns:

string with formatted stack trace data.

Implements **decaf::lang::Throwable** (p. 3050).

6.246.2.7 virtual void decaf::lang::Exception::initCause (const std::exception * *cause*) [virtual]

Initializes the contained cause exception with the one given. The caller should ensure that a valid copy of the causal exception is passed as this **Exception** (p. 1445) object will take ownership of the passed pointer. Do not pass a pointer to the address of an exception allocated on the stack or from an exception in a catch block.

Parameters:

cause The exception that was the cause of this one.

Implements **decaf::lang::Throwable** (p. 3050).

6.246.2.8 Exception& decaf::lang::Exception::operator= (const Exception & *ex*)

Assignment operator, copies one **Exception** (p. 1445) to another.

Parameters:

ex const reference to another **Exception** (p. 1445)

6.246.2.9 virtual void decaf::lang::Exception::printStackTrace (std::ostream & *stream*) const [virtual]

Prints the stack trace to the given output stream.

Parameters:

stream the target output stream.

Implements **decaf::lang::Throwable** (p. 3050).

6.246.2.10 virtual void decaf::lang::Exception::printStackTrace () const [virtual]

Prints the stack trace to std::err.

Implements **decaf::lang::Throwable** (p. 3050).

6.246.2.11 virtual void decaf::lang::Exception::setMark (const char * *file*, const int *lineNumber*) [virtual]

Adds a file/line number to the stack trace.

Parameters:

file The name of the file calling this method (use __FILE__).

lineNumber The line number in the calling file (use __LINE__).

Implements **decaf::lang::Throwable** (p. 3050).

Referenced by decaf::util::concurrent::ExecutorService::submit().

6.246.2.12 virtual void decaf::lang::Exception::setMessage (const char * *msg*, ...) [virtual]

Sets the cause for this exception.

Parameters:

msg The format string for the msg.

... The params to format into the string.

6.246.2.13 virtual void decaf::lang::Exception::setStackTrace (const std::vector< std::pair< std::string, int > > & *trace*) [protected, virtual]

6.246.2.14 virtual const char* decaf::lang::Exception::what () const throw () [virtual]

Implement method from std::exception.

Returns:

the const char* of `getMessage()` (p. 1449).

6.246.3 Field Documentation

6.246.3.1 ExceptionData* decaf::lang::Exception::data [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Exception.h**

6.247 cms::ExceptionListener Class Reference

If a CMS provider detects a serious problem, it notifies the client application through an `ExceptionListener (p. 1452)` that is registered with the `Connection (p. 1083)`.

`#include <src/main/cms/ExceptionListener.h>`Inheritance diagram for cms::ExceptionListener:

Public Member Functions

- virtual ~**ExceptionListener** ()
- virtual void **onException** (const **cms::CMSException** &ex)=0

  Called when an exception occurs.

6.247.1 Detailed Description

If a CMS provider detects a serious problem, it notifies the client application through an `ExceptionListener (p. 1452)` that is registered with the `Connection (p. 1083)`. An exception listener allows a client to be notified of a problem asynchronously. Some connections only consume messages via the asynchronous event mechanism so they would have no other way to learn that their connection has failed.

Since:

1.0

6.247.2 Constructor & Destructor Documentation

6.247.2.1 virtual cms::ExceptionListener::~ExceptionListener () [virtual]

6.247.3 Member Function Documentation

6.247.3.1 virtual void cms::ExceptionListener::onException (const cms::CMSException & *ex*) [pure virtual]

Called when an exception occurs. Once notified of an exception the caller should no longer use the resource that generated the exception.

Parameters:

ex Exception Object that occurred.

The documentation for this class was generated from the following file:

- src/main/cms/**ExceptionListener.h**

6.248 activemq::commands::ExceptionResponse Class Reference

`#include <src/main/activemq/commands/ExceptionResponse.h>`Inheritance diagram for activemq::commands::ExceptionResponse:

Public Member Functions

- **ExceptionResponse** ()
- virtual ~**ExceptionResponse** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ExceptionResponse** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **BrokerError** > & **getException** () const
- virtual **Pointer**< **BrokerError** > & **getException** ()
- virtual void **setException** (const **Pointer**< **BrokerError** > &**exception**)

Static Public Attributes

- static const unsigned char **ID_EXCEPTIONRESPONSE** = 31

Protected Attributes

- **Pointer**< **BrokerError** > **exception**

6.248.1 Constructor & Destructor Documentation

6.248.1.1 activemq::commands::ExceptionResponse::ExceptionResponse ()

6.248.1.2 virtual activemq::commands::ExceptionResponse::~ExceptionResponse () [virtual]

6.248.2 Member Function Documentation

6.248.2.1 virtual ExceptionResponse* activemq::commands::ExceptionResponse::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Response** (p. 2592).

6.248.2.2 virtual void activemq::commands::ExceptionResponse::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Response** (p. 2592).

6.248.2.3 virtual bool activemq::commands::ExceptionResponse::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::Response** (p. 2592).

6.248.2.4 virtual unsigned char activemq::commands::ExceptionResponse::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Response** (p. 2593).

6.248.2.5 virtual Pointer<BrokerError>& activemq::commands::ExceptionResponse::getException () [virtual]

6.248.2.6 virtual const Pointer<BrokerError>& activemq::commands::ExceptionResponse::getException () const [virtual]

6.248.2.7 virtual void activemq::commands::ExceptionResponse::setException (const Pointer< BrokerError > & *exception*) [virtual]

6.248.2.8 virtual std::string activemq::commands::ExceptionResponse::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Response** (p. 2593).

6.248.3 Field Documentation

6.248.3.1 Pointer<BrokerError> activemq::commands::ExceptionResponse::exception [protected]

6.248.3.2 const unsigned char activemq::commands::ExceptionResponse::ID_EXCEPTIONRESPONSE = 31 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ExceptionResponse.h**

6.249 activemq::wireformat::openwire::marshal::generated::ExceptionRe Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ExceptionResponseMarshaller** (p. 1456).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ExceptionResponseMarshaller.h>`
diagram for activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller:

Public Member Functions

- **ExceptionResponseMarshaller** ()
- virtual ~**ExceptionResponseMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.249.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ExceptionResponseMarshaller** (p. 1456). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.249.2 Constructor & Destructor Documentation

6.249.2.1 activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller::Excep () [inline]

6.249.2.2 virtual activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller::~Exc () [inline, virtual]

6.249.3 Member Function Documentation

6.249.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller::createO () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.249.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller::getData () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.249.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller::looseMa (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.249.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller::looseUn (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604).

6.249.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller::tightMa (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604).

6.249.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller::tightMa (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2605).

6.249.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller::tightUn (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2605).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ExceptionResponseMarshaller.h**

6.250 decaf::util::concurrent::ExecutionException Class Reference

`#include <src/main/decaf/util/concurrent/ExecutionException.h>`Inheritance diagram for decaf::util::concurrent::ExecutionException:

Public Member Functions

- **ExecutionException** ()

  Default Constructor.

- **ExecutionException** (const **decaf::lang::Exception** &ex)

  Conversion Constructor from some other Exception.

- **ExecutionException** (const **ExecutionException** &ex)

  Copy Constructor.

- **ExecutionException** (const std::exception *cause)

  Constructor.

- **ExecutionException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **ExecutionException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **ExecutionException** * **clone** () const

  Clones this exception.

- virtual ~**ExecutionException** () throw ()

6.250.1 Constructor & Destructor Documentation

6.250.1.1 decaf::util::concurrent::ExecutionException::ExecutionException ()

Default Constructor.

6.250.1.2 decaf::util::concurrent::ExecutionException::ExecutionException (const decaf::lang::Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex - An exception that should become this type of Exception

6.250.1.3 decaf::util::concurrent::ExecutionException::ExecutionException (const ExecutionException & *ex*)

Copy Constructor.

Parameters:

ex - The Exception to copy in this new instance.

6.250.1.4 decaf::util::concurrent::ExecutionException::ExecutionException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.250.1.5 decaf::util::concurrent::ExecutionException::ExecutionException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file - The file name where exception occurs

lineNumber - The line number where the exception occurred.

msg - The message to report

... - The list of primitives that are formatted into the message

6.250.1.6 decaf::util::concurrent::ExecutionException::ExecutionException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file - The file name where exception occurs

lineNumber - The line number where the exception occurred.

cause - The exception that was the cause for this one to be thrown.

msg - The message to report

... - list of primitives that are formatted into the message

6.250.1.7 virtual decaf::util::concurrent::ExecutionException::~ExecutionException () throw () [virtual]

6.250.2 Member Function Documentation

6.250.2.1 virtual ExecutionException* decaf::util::concurrent::ExecutionException::clone () const [virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new instance of an exception that is a clone of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ExecutionException.h**

6.251 decaf::util::concurrent::Executor Class Reference

An object that executes submitted **decaf.lang.Runnable** (p. 2607) tasks.

`#include <src/main/decaf/util/concurrent/Executor.h>`Inheritance diagram for decaf::util::concurrent::Executor:

Public Member Functions

- virtual ~**Executor** ()
- virtual void **execute** (**decaf::lang::Runnable** *command)=0

  This method is the same as calling the two param execute method and passing true as the second argument.

- virtual void **execute** (**decaf::lang::Runnable** *command, bool takeOwnership)=0

  Executes the given command at some time in the future.

6.251.1 Detailed Description

An object that executes submitted **decaf.lang.Runnable** (p. 2607) tasks. This interface provides a way of decoupling task submission from the mechanics of how each task will be run, including details of thread use, scheduling, etc. An `Executor` (p. 1463) is normally used instead of explicitly creating threads. For example, rather than invoking `new Thread(new(RunnableTask())).start()` for each of a set of tasks, you might use:

```
Executor (p. 1463) executor =  anExecutor;
executor->execute( new RunnableTask1() );
executor->execute( new RunnableTask2() );
...
```

However, the `Executor` (p. 1463) interface does not strictly require that execution be asynchronous. In the simplest case, an executor can run the submitted task immediately in the caller's thread:

```
class DirectExecutor : public Executor (p. 1463) {
public:

    void execute( Runnable* r ) {
        r->run();
    }

}
```

More typically, tasks are executed in some thread other than the caller's thread. The executor below spawns a new thread for each task.

```
class ThreadPerTaskExecutor : public Executor (p. 1463) {
public:
    std::vector<Thread*gt; threads;
```

```
    void execute( Runnable* r ) {
        threads.push_back( new Thread( r ) );
        threads.rbegin()->start();
    }

}
```

The `Executor` (p. 1463) implementations provided in this package implement **decaf.util.concurrent.ExecutorService** (p. 1471), which is a more extensive interface. The **decaf.util.concurrent.ThreadPoolExecutor** (p. 3031) class provides an extensible thread pool implementation. The **decaf.util.concurrentExecutor** (p. ??) class provides convenient factory methods for these **Executors** (p. 1466).

Since:

1.0

6.251.2 Constructor & Destructor Documentation

6.251.2.1 virtual decaf::util::concurrent::Executor::~Executor () [inline, virtual]

6.251.3 Member Function Documentation

6.251.3.1 virtual void decaf::util::concurrent::Executor::execute (decaf::lang::Runnable * *command*, bool *takeOwnership*) [pure virtual]

Executes the given command at some time in the future. The command may execute in a new thread, in a pooled thread, or in the calling thread, at the discretion of the `Executor` (p. 1463) implementation.

Parameters:

command The runnable task to be executed.

takeOwnership Indicates if the **Executor** (p. 1463) should assume ownership of the task and delete the pointer once the task has completed.

Exceptions:

RejectedExecutionException *(p. 2552)* if this task cannot be accepted for execution.

NullPointerException if command is null

Implemented in **decaf::util::concurrent::ThreadPoolExecutor** (p. 3039).

6.251.3.2 virtual void decaf::util::concurrent::Executor::execute (decaf::lang::Runnable * *command*) [pure virtual]

This method is the same as calling the two param execute method and passing true as the second argument.

Parameters:

command The runnable task to be executed.

Exceptions:

RejectedExecutionException *(p. 2552)* if this task cannot be accepted for execution.
NullPointerException if command is null

Implemented in **decaf::util::concurrent::ThreadPoolExecutor** (p. 3039).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Executor.h**

6.252 decaf::util::concurrent::Executors Class Reference

Implements a set of utilities for use with **Executors** (p. 1466), **ExecutorService** (p. 1471), **ThreadFactory** (p. 3011), and **Callable** (p. 882) types, as well as providing factory methods for instance of these types configured for the most common use cases.

`#include <src/main/decaf/util/concurrent/Executors.h>`

Data Structures

- class **RunnableAdapter**

  *A **Callable** (p. 882) subclass that runs given task and returns given result.*

Public Member Functions

- virtual ~**Executors** ()

Static Public Member Functions

- static **ThreadFactory** * **getDefaultThreadFactory** ()

  *Creates and returns a new **ThreadFactory** (p. 3011) that expresses the default behavior for ThreadFactories used in **Executor** (p. 1463) classes.*

- static **ExecutorService** * **newFixedThreadPool** (int nThreads)

  *Creates a new **ThreadPoolExecutor** (p. 3031) with a fixed number of threads to process incoming tasks.*

- static **ExecutorService** * **newFixedThreadPool** (int nThreads, **ThreadFactory** *threadFactory)

  *Creates a new **ThreadPoolExecutor** (p. 3031) with a fixed number of threads to process incoming tasks.*

- static **ExecutorService** * **newSingleThreadExecutor** ()

  *Creates an **Executor** (p. 1463) that uses a single worker thread operating off an unbounded queue owned by the executor.*

- static **ExecutorService** * **newSingleThreadExecutor** (**ThreadFactory** *threadFactory)

  *Creates an **Executor** (p. 1463) that uses a single worker thread operating off an unbounded queue owned by the executor.*

- static **ExecutorService** * **unconfigurableExecutorService** (**ExecutorService** *executor)

  *Returns a new **ExecutorService** (p. 1471) derived instance that wraps and takes ownership of the given **ExecutorService** (p. 1471) pointer.*

- template<typename E >
  static **Callable**< E > * **callable** (**decaf::lang::Runnable** *task, bool owns=true)

  *Returns a **Callable** (p. 882) object that, when called, runs the given task and returns the default value of the template type E (or E()).*

- template<typename E >
  static **Callable**< E > * **callable** (**decaf::lang::Runnable** *task, const E &result, bool owns=true)

  *Returns a **Callable** (p. 882) object that, when called, runs the given task and returns the default value of the template type E (or E()).*

Friends

- class **decaf::internal::util::concurrent::Threading**

6.252.1 Detailed Description

Implements a set of utilities for use with **Executors** (p. 1466), **ExecutorService** (p. 1471), **ThreadFactory** (p. 3011), and **Callable** (p. 882) types, as well as providing factory methods for instance of these types configured for the most common use cases.

Since:

1.0

6.252.2 Constructor & Destructor Documentation

6.252.2.1 virtual decaf::util::concurrent::Executors::~Executors () [virtual]

6.252.3 Member Function Documentation

6.252.3.1 template<typename E > static Callable<E>* decaf::util::concurrent::Executors::callable (decaf::lang::Runnable * *task*, const E & *result*, bool *owns* = true) [inline, static]

Returns a **Callable** (p. 882) object that, when called, runs the given task and returns the default value of the template type E (or E()).

Parameters:

task The Runnable task that is to be executed.

result The value that is returned from the callable upon completion.

owns Does the callable instance own the given Runnable task pointer, default is true.

Returns:

a new **Callable**<**E**> (p. 882) pointer that is owned by the caller.

Exceptions:

NullPointerException if the Runnable task is NULL

References NULL.

6.252.3.2 template<typename E > static Callable<E>* decaf::util::concurrent::Executors::callable (decaf::lang::Runnable * *task*, bool *owns* = true) [inline, static]

Returns a **Callable** (p. 882) object that, when called, runs the given task and returns the default value of the template type E (or E()).

Parameters:

task The Runnable task that is to be executed.

owns Does the callable instance own the given Runnable task pointer, default is true.

Returns:

a new **Callable<E>** (p. 882) pointer that is owned by the caller.

Exceptions:

NullPointerException if the Runnable task is NULL

References NULL.

6.252.3.3 static ThreadFactory* decaf::util::concurrent::Executors::getDefaultThreadFactory () [static]

Creates and returns a new **ThreadFactory** (p. 3011) that expresses the default behavior for ThreadFactories used in **Executor** (p. 1463) classes. The default factory create a new non-daemon thread with normal priority and a name whose value is equal to pool-N-thread-M, where N is the sequence number of this factory, and M is the sequence number of the thread created by this factory.

Returns:

a new instance of the default thread factory used in **Executors** (p. 1466), the caller takes ownership of the returned pointer.

6.252.3.4 static ExecutorService* decaf::util::concurrent::Executors::newFixedThreadPool (int *nThreads*, ThreadFactory * *threadFactory*) [static]

Creates a new **ThreadPoolExecutor** (p. 3031) with a fixed number of threads to process incoming tasks. The thread pool will use an unbounded queue to store pending tasks. At any given time the maximum threads in the pool will be equal to the number given to this factory method. If a thread in the pool dies a new one will be spawned to take its place in the pool. Tasks that are submitted when all pooled threads are busy will be held until a thread is freed if the pool has allocated its assigned number of threads already.

Parameters:

nThreads The number of threads to assign as the max for the new **ExecutorService** (p. 1471).

threadFactory Instance of a **ThreadFactory** (p. 3011) that will be used by the **Executor** (p. 1463) to spawn new worker threads. This parameter cannot be NULL.

Returns:

pointer to a new **ExecutorService** (p. 1471) that is owned by the caller.

Exceptions:

NullPointerException if threadFactory is NULL.

IllegalArgumentException if nThreads is less than or equal to zero.

6.252.3.5 static ExecutorService* decaf::util::concurrent::Executors::newFixedThreadPool (int *nThreads*) [static]

Creates a new **ThreadPoolExecutor** (p. 3031) with a fixed number of threads to process incoming tasks. The thread pool will use an unbounded queue to store pending tasks. At any given time the maximum threads in the pool will be equal to the number given to this factory method. If a thread in the pool dies a new one will be spawned to take its place in the pool. Tasks that are submitted when all pooled threads are busy will be held until a thread is freed if the pool has allocated its assigned number of threads already.

Parameters:

nThreads The number of threads to assign as the max for the new **ExecutorService** (p. 1471).

Returns:

pointer to a new **ExecutorService** (p. 1471) that is owned by the caller.

Exceptions:

IllegalArgumentException if nThreads is less than or equal to zero.

6.252.3.6 static ExecutorService* decaf::util::concurrent::Executors::newSingleThreadExecutor (ThreadFactory * *threadFactory*) [static]

Creates an **Executor** (p. 1463) that uses a single worker thread operating off an unbounded queue owned by the executor. If the Executor's single thread should terminate for some reason such as failure during the execution of a task, a new Thread will be created if the **Executor** (p. 1463) has not been shutdown and there are more tasks in the queue. The **Executor** (p. 1463) returned from this method is owned by the caller but unlike the **Executor** (p. 1463) returned from the method newFixedThreadPool(1) this one cannot be reconfigurable to use more threads later on.

Parameters:

threadFactory Instance of a **ThreadFactory** (p. 3011) that will be used by the **Executor** (p. 1463) to spawn new worker threads. This parameter cannot be NULL and ownership passes to the **Executor** (p. 1463).

Returns:

a new **Executor** (p. 1463) pointer that is owned by the caller.

Exceptions:

NullPointerException if threadFactory is NULL.

6.252.3.7 static ExecutorService* decaf::util::concurrent::Executors::newSingleThreadExecutor () [static]

Creates an **Executor** (p. 1463) that uses a single worker thread operating off an unbounded queue owned by the executor. If the Executor's single thread should terminate for some reason such as failure during the execution of a task, a new Thread will be created if the **Executor** (p. 1463) has not been shutdown and there are more tasks in the queue. The **Executor** (p. 1463) returned from this method is owned by the caller but unlike the **Executor** (p. 1463) returned from the method newFixedThreadPool(1) this one cannot be reconfigurable to use more threads later on.

Returns:

a new **Executor** (p. 1463) pointer that is owned by the caller.

6.252.3.8 static ExecutorService* decaf::util::concurrent::Executors::unconfigurableExecutorService (ExecutorService * *executor*) [static]

Returns a new **ExecutorService** (p. 1471) derived instance that wraps and takes ownership of the given **ExecutorService** (p. 1471) pointer. The returned **ExecutorService** (p. 1471) delegates all calls to the wrapped **ExecutorService** (p. 1471) instance but does not allow any configuration changes. This method provides a means of locking an **ExecutorService** (p. 1471) instance configuration and prevents changes that might be accomplished with casting.

Parameters:

executor The **ExecutorService** (p. 1471) pointer to wrap and take ownership of.

Returns:

a new **ExecutorService** (p. 1471) pointer that is owned by the caller.

Exceptions:

NullPointerException if **ExecutorService** (p. 1471) is NULL.

6.252.4 Friends And Related Function Documentation

6.252.4.1 friend class decaf::internal::util::concurrent::Threading [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Executors.h**

6.253 decaf::util::concurrent::ExecutorService Class Reference

An **Executor** (p. 1463) that provides methods to manage termination and methods that can produce a **Future** (p. 1558) for tracking progress of one or more asynchronous tasks.

`#include <src/main/decaf/util/concurrent/ExecutorService.h>`Inheritance diagram for decaf::util::concurrent::ExecutorService:

Public Member Functions

- virtual ~**ExecutorService** ()
- virtual bool **awaitTermination** (long long timeout, const **TimeUnit** &unit)=0

  The caller will block until the executor has completed termination meaning all tasks that where scheduled before shutdown have now completed and the executor is ready for deletion.

- virtual void **shutdown** ()=0

  *Performs an orderly shutdown of this **Executor** (p. 1463).*

- virtual **ArrayList**< **decaf::lang::Runnable** * > **shutdownNow** ()=0

  *Attempts to stop all currently executing tasks and returns an **ArrayList** (p. 579) containing the Runnables that did not get executed, these object become the property of the caller and are not deleted by this class, they are removed from the work queue and forgotten about.*

- virtual bool **isShutdown** () const =0

  Returns whether this executor has been shutdown or not.

- virtual bool **isTerminated** () const =0

  Returns whether all tasks have completed after this executor was shut down.

- template<typename E >
  Future< E > * **submit** (**Callable**< E > *task, bool takeOwnership=true)

  *Submits a value-returning task for execution and returns a **Future** (p. 1558) pointer representing the pending results of the task.*

- template<typename E >
  Future< E > * **submit** (**decaf::lang::Runnable** *task, const E &result, bool takeOwnership=true)

  *Submits a Runnable task for execution and returns a **Future** (p. 1558) representing that task.*

- template<typename E >
  Future< E > * **submit** (**decaf::lang::Runnable** *task, bool takeOwnership=true)

  Submits a Runnable object for execution.

Protected Member Functions

- virtual void **doSubmit** (**FutureType** *future)=0

*Perform the actual submit of a **FutureType** (p. 1568) instance, the caller is responsible for creating the properly typed Future<E> object and returning that to its caller.*

6.253.1 Detailed Description

An **Executor** (p. 1463) that provides methods to manage termination and methods that can produce a **Future** (p. 1558) for tracking progress of one or more asynchronous tasks. An **ExecutorService** (p. 1471) can be shut down, which will cause it to reject new tasks. Two different methods are provided for shutting down an **ExecutorService** (p. 1471). The **shutdown()** (p. 1473) method will allow previously submitted tasks to execute before terminating, while the **shutdownNow()** (p. 1473) method prevents waiting tasks from starting and attempts to stop currently executing tasks. Upon termination, an executor has no tasks actively executing, no tasks awaiting execution, and no new tasks can be submitted. An unused **ExecutorService** (p. 1471) should be shut down to allow reclamation of its resources.

Method submit extends base method **Executor.execute** (p. 1464)(**decaf.lang.Runnable** (p. 2607)) by creating and returning a **Future** (p. 1558) that can be used to cancel execution and/or wait for completion. Methods invokeAny and invokeAll perform the most commonly useful forms of bulk execution, executing a collection of tasks and then waiting for at least one, or all, to complete. (Class ExecutorCompletionService can be used to write customized variants of these methods.)

The **Executors** (p. 1466) class provides factory methods for the executor services provided in this package.

Since:

1.0

6.253.2 Constructor & Destructor Documentation

6.253.2.1 virtual decaf::util::concurrent::ExecutorService::~ExecutorService () [inline, virtual]

6.253.3 Member Function Documentation

6.253.3.1 virtual bool decaf::util::concurrent::ExecutorService::awaitTermination (long long *timeout*, const TimeUnit & *unit*) [pure virtual]

The caller will block until the executor has completed termination meaning all tasks that where scheduled before shutdown have now completed and the executor is ready for deletion. If the timeout period elapses before the executor reaches the terminated state then this method return false to indicate it has not terminated.

Parameters:

timeout The amount of time to wait before abandoning the wait for termination.

unit The unit of time that the timeout value represents.

Returns:

true if the executor terminated or false if the timeout expired.

Exceptions:

InterruptedException if this call is interrupted while awaiting termination.

Implemented in **decaf::util::concurrent::ThreadPoolExecutor** (p. 3038).

6.253.3.2 virtual void decaf::util::concurrent::ExecutorService::doSubmit (FutureType * *future*) [protected, pure virtual]

Perform the actual submit of a **FutureType** (p. 1568) instance, the caller is responsible for creating the properly typed Future<E> object and returning that to its caller. The pointer provided is the property of this **Executor** (p. 1463) and must be deleted by this executor once its completed.

Parameters:

future Pointer to a base **FutureType** (p. 1568) instance that is to be submitted to the **Executor** (p. 1463).

Implemented in **decaf::util::concurrent::AbstractExecutorService** (p. 154).

6.253.3.3 virtual bool decaf::util::concurrent::ExecutorService::isShutdown () const [pure virtual]

Returns whether this executor has been shutdown or not.

Returns:

true if this executor has been shutdown.

Implemented in **decaf::util::concurrent::ThreadPoolExecutor** (p. 3042).

6.253.3.4 virtual bool decaf::util::concurrent::ExecutorService::isTerminated () const [pure virtual]

Returns whether all tasks have completed after this executor was shut down.

Returns:

true if all tasks have completed after a request to shut down was made.

Implemented in **decaf::util::concurrent::ThreadPoolExecutor** (p. 3042).

6.253.3.5 virtual void decaf::util::concurrent::ExecutorService::shutdown () [pure virtual]

Performs an orderly shutdown of this **Executor** (p. 1463). Previously queued tasks are allowed to complete but no new tasks are accepted for execution. Calling this method more than once has no affect on this executor.

Implemented in **decaf::util::concurrent::ThreadPoolExecutor** (p. 3045).

6.253.3.6 virtual ArrayList<decaf::lang::Runnable*> decaf::util::concurrent::ExecutorService::shutdownNow () [pure virtual]

Attempts to stop all currently executing tasks and returns an **ArrayList** (p. 579) containing the Runnables that did not get executed, these object become the property of the caller and are not deleted by this class, they are removed from the work queue and forgotten about. There is no guarantee that this method will halt execution of currently executing tasks.

Returns:

an **ArrayList** (p. 579) containing all Runnable instance that were still waiting to be executed by this class, call now owns those pointers.

Implemented in **decaf::util::concurrent::ThreadPoolExecutor** (p. 3045).

6.253.3.7 template<typename E > Future<E>* decaf::util::concurrent::ExecutorService::submit (decaf::lang::Runnable * *task*, bool *takeOwnership* = true) [inline]

Submits a Runnable object for execution. A **Future** (p. 1558) object is created and returned that will return the default value of the template type upon completion. The caller owns the returned pointer and is responsible for deleting it. The returned value is a proxy to the actual **FutureTask** (p. 1562) that is submitted for execution so is legal for the caller to delete this value before its execution has completed.

Parameters:

task Pointer to a Runnable object that will be executed by this **ExecutorService** (p. 1471).

takeOwnership Boolean value indicating if the **Executor** (p. 1463) now owns the pointer to the task.

Returns:

a new **Future** (p. 1558)<?> pointer that is owned by the caller.

Exceptions:

RejectedExecutionException *(p. 2552)* if the task cannot be scheduled for execution

NullPointerException if the Runnable pointer passed is NULL.

References DECAF_CATCH_RETHROW, DECAF_CATCHALL_THROW, decaf::lang::Pointer< T, REFCOUNTER >::get(), decaf::lang::Pointer< T, REFCOUNTER >::release(), and decaf::lang::Exception::setMark().

6.253.3.8 template<typename E > Future<E>* decaf::util::concurrent::ExecutorService::submit (decaf::lang::Runnable * *task*, const E & *result*, bool *takeOwnership* = true) [inline]

Submits a Runnable task for execution and returns a **Future** (p. 1558) representing that task. The Future's `get` method will return the given result upon successful completion. The caller owns the returned pointer and is responsible for deleting it. The returned value is a proxy to the actual **FutureTask** (p. 1562) that is submitted for execution so is legal for the caller to delete this value before its execution has completed.

Parameters:

task The pointer to the task to submit.

result The result to return

takeOwnership Boolean value indicating if the **Executor** (p. 1463) now owns the pointer to the task.

Returns:

a **Future** (p. 1558)<?> pointer representing pending completion of the task,

Exceptions:

RejectedExecutionException *(p. 2552)* if the task cannot be scheduled for execution

NullPointerException if the task is null

References DECAF_CATCH_RETHROW, DECAF_CATCHALL_THROW, decaf::lang::Pointer< T, REFCOUNTER >::get(), decaf::lang::Pointer< T, REFCOUNTER >::release(), and decaf::lang::Exception::setMark().

6.253.3.9 template<typename E > Future<E>* decaf::util::concurrent::ExecutorService::submit (Callable< E > * *task*, bool *takeOwnership* = true) [inline]

Submits a value-returning task for execution and returns a **Future** (p. 1558) pointer representing the pending results of the task. The Future's `get` method will return the task's result upon successful completion. The caller owns the returned pointer and is responsible for deleting it. The returned value is a proxy to the actual **FutureTask** (p. 1562) that is submitted for execution so is legal for the caller to delete this value before its execution has completed.

Parameters:

task Pointer to the **Callable** (p. 882)<?> task to submit.

takeOwnership Boolean value indicating if the **Executor** (p. 1463) now owns the pointer to the task.

Returns:

a **Future** (p. 1558)<?> pointer representing pending completion of the task.

Exceptions:

RejectedExecutionException *(p. 2552)* if the task cannot be scheduled for execution

NullPointerException if the task is null

References DECAF_CATCH_RETHROW, DECAF_CATCHALL_THROW, decaf::lang::Pointer< T, REFCOUNTER >::get(), decaf::lang::Pointer< T, REFCOUNTER >::release(), and decaf::lang::Exception::setMark().

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ExecutorService.h**

6.254 decaf::internal::util::concurrent::ExecutorsSupport Class Reference

Various support methods for use in Executors and surrounding classes.

`#include <src/main/decaf/internal/util/concurrent/ExecutorsSupport.h>`

6.254.1 Detailed Description

Various support methods for use in Executors and surrounding classes.

Since:

1.0

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**ExecutorsSupport.h**

6.255 activemq::transport::failover::FailoverTransport Class Reference

`#include <src/main/activemq/transport/failover/FailoverTransport.h>`Inheritance diagram for activemq::transport::failover::FailoverTransport:

Public Member Functions

- **FailoverTransport** ()
- virtual ~**FailoverTransport** ()
- void **reconnect** (bool rebalance)

  *Indicates that the **Transport** (p. 3109) needs to reconnect to another URI in its list.*

- void **add** (bool rebalance, const std::string &uri)

  *Adds a New URI to the List of URIs this **transport** (p. 72) can Connect to.*

- virtual void **addURI** (bool rebalance, const **List**< **decaf::net::URI** > &uris)

  *Add a URI to the list of URI's that will represent the set of Transports that this **Transport** (p. 3109) is a composite of.*

- virtual void **removeURI** (bool rebalance, const **List**< **decaf::net::URI** > &uris)

  *Remove a URI from the set of URI's that represents the set of Transports that this **Transport** (p. 3109) is composed of, removing a URI for which the composite has created a connected **Transport** (p. 3109) should result in that **Transport** (p. 3109) being disposed of.*

- virtual void **start** ()

  *Starts the **Transport** (p. 3109), the send methods of a **Transport** (p. 3109) will throw an exception if used before the **Transport** (p. 3109) is started.*

- virtual void **stop** ()

  *Stops the **Transport** (p. 3109).*

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual void **oneway** (const **Pointer**< **Command** > command)

  Sends a one-way command.

- virtual **Pointer**< **FutureResponse** > **asyncRequest** (const **Pointer**< **Command** > command, const **Pointer**< **ResponseCallback** > responseCallback)

  *Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.*

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command)

  Sends the given command to the broker and then waits for the response.

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command, unsigned int timeout)

Sends the given command to the broker and then waits for the response.

- virtual **Pointer< wireformat::WireFormat > getWireFormat** () const

  Gets the WireFormat instance that is in use by this ***transport*** *(p. 72).*

- virtual void **setWireFormat** (const **Pointer< wireformat::WireFormat >** wireFormat AMQCPP_UNUSED)

  Sets the WireFormat instance to use.

- virtual void **setTransportListener** (**TransportListener** *listener)

  Sets the observer of asynchronous events from this ***transport*** *(p. 72).*

- virtual **TransportListener** * **getTransportListener** () const

  Gets the observer of asynchronous events from this ***transport*** *(p. 72).*

- virtual bool **isFaultTolerant** () const

  Is this ***Transport*** *(p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.*

- virtual bool **isConnected** () const

  Is the ***Transport*** *(p. 3109) Connected to its Broker.*

- virtual bool **isClosed** () const

  Has the ***Transport*** *(p. 3109) been shutdown and no longer usable.*

- bool **isInitialized** () const
- void **setInitialized** (bool value)
- virtual **Transport** * **narrow** (const std::type_info &typeId)

  Narrows down a Chain of Transports to a specific ***Transport*** *(p. 3109) to allow a higher level* ***transport*** *(p. 72) to skip intermediate Transports in certain circumstances.*

- virtual std::string **getRemoteAddress** () const
- virtual void **reconnect** (const **decaf::net::URI** &uri)

  reconnect to another location

- virtual void **updateURIs** (bool rebalance, const **decaf::util::List< decaf::net::URI >** &uris)

  Updates the set of URIs the ***Transport*** *(p. 3109) can connect to.*

- virtual bool **isPending** () const
- virtual bool **iterate** ()

  Performs the actual Reconnect operation for the ***FailoverTransport*** *(p. 1477), when a connection is made this method returns false to indicate it doesn't need to run again, otherwise it returns true to indicate its still trying to connect.*

- long long **getTimeout** () const
- void **setTimeout** (long long value)
- long long **getInitialReconnectDelay** () const
- void **setInitialReconnectDelay** (long long value)
- long long **getMaxReconnectDelay** () const
- void **setMaxReconnectDelay** (long long value)

- long long **getBackOffMultiplier** () const
- void **setBackOffMultiplier** (long long value)
- bool **isUseExponentialBackOff** () const
- void **setUseExponentialBackOff** (bool value)
- bool **isRandomize** () const
- void **setRandomize** (bool value)
- int **getMaxReconnectAttempts** () const
- void **setMaxReconnectAttempts** (int value)
- int **getStartupMaxReconnectAttempts** () const
- void **setStartupMaxReconnectAttempts** (int value)
- long long **getReconnectDelay** () const
- void **setReconnectDelay** (long long value)
- bool **isBackup** () const
- void **setBackup** (bool value)
- int **getBackupPoolSize** () const
- void **setBackupPoolSize** (int value)
- bool **isTrackMessages** () const
- void **setTrackMessages** (bool value)
- bool **isTrackTransactionProducers** () const
- void **setTrackTransactionProducers** (bool value)
- int **getMaxCacheSize** () const
- void **setMaxCacheSize** (int value)
- int **getMaxPullCacheSize** () const
- void **setMaxPullCacheSize** (int value)
- bool **isReconnectSupported** () const
- void **setReconnectSupported** (bool value)
- bool **isUpdateURIsSupported** () const
- void **setUpdateURIsSupported** (bool value)
- bool **isRebalanceUpdateURIs** () const
- void **setRebalanceUpdateURIs** (bool rebalanceUpdateURIs)
- bool **isPriorityBackup** () const
- void **setPriorityBackup** (bool priorityBackup)
- void **setPriorityURIs** (const std::string &priorityURIs)
- const **decaf::util::List**< **decaf::net::URI** > & **getPriorityURIs** () const
- void **setConnectionInterruptProcessingComplete** (const **Pointer**< **commands::ConnectionId** > connectionId)
- bool **isConnectedToPriority** () const

Protected Member Functions

- void **restoreTransport** (const **Pointer**< **Transport** > transport)

  *Given a **Transport** (p. 3109) restore the **state** (p. 70) of the Client's connection to the Broker using the data accumulated in the State Tracker.*

- void **handleTransportFailure** (const **decaf::lang::Exception** &error)

  *Called when this class' **TransportListener** (p. 3130) is notified of a Failure.*

- void **handleConnectionControl** (const **Pointer**< **Command** > control)

  Called when the Broker sends a ConnectionControl command which could signal that this Client needs to reconnect in order to rebalance the connections on a Broker or the set of Known brokers has changed.

Friends

- class **FailoverTransportListener**
- class **BackupTransportPool**

6.255.1 Constructor & Destructor Documentation

6.255.1.1 activemq::transport::failover::FailoverTransport::FailoverTransport ()

6.255.1.2 virtual activemq::transport::failover::FailoverTransport::~FailoverTransport () [virtual]

6.255.2 Member Function Documentation

6.255.2.1 void activemq::transport::failover::FailoverTransport::add (bool *rebalance*, const std::string & *uri*)

Adds a New URI to the List of URIs this **transport** (p. 72) can Connect to.

Parameters:

rebalance Should the **transport** (p. 72) reconnect to a different broker to balance load.

uri A String version of a URI to add to the URIs to **failover** (p. 74) to.

6.255.2.2 virtual void activemq::transport::failover::FailoverTransport::addURI (bool *rebalance*, const List< decaf::net::URI > & *uris*) [virtual]

Add a URI to the list of URI's that will represent the set of Transports that this **Transport** (p. 3109) is a composite of.

Parameters:

rebalance Indicates if the addition should cause a forced reconnect or not.

uris The new URI set to add to the set this composite maintains.

Implements **activemq::transport::CompositeTransport** (p. 1043).

6.255.2.3 virtual Pointer<FutureResponse> activemq::transport::failover::FailoverTransport::asyncRequest (const Pointer< Command > *command*, const Pointer< ResponseCallback > *responseCallback*) [virtual]

Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.

Parameters:

command The Command object that is to sent out.

responseCallback A callback object that will be notified once a response to the command is received.

Returns:

A **FutureResponse** (p. 1560) instance that can be queried for the Response to the Command.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3110).

6.255.2.4 virtual void activemq::transport::failover::FailoverTransport::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

IOException if an error occurs while closing.

Implements **decaf::io::Closeable** (p. 961).

6.255.2.5 long long activemq::transport::failover::FailoverTransport::getBackOffMultiplier () const

6.255.2.6 int activemq::transport::failover::FailoverTransport::getBackupPoolSize () const

6.255.2.7 long long activemq::transport::failover::FailoverTransport::getInitialReconnectDelay () const

6.255.2.8 int activemq::transport::failover::FailoverTransport::getMaxCacheSize () const

6.255.2.9 int activemq::transport::failover::FailoverTransport::getMaxPullCacheSize () const

6.255.2.10 int activemq::transport::failover::FailoverTransport::getMaxReconnectAttempts () const

6.255.2.11 long long activemq::transport::failover::FailoverTransport::getMaxReconnectDelay () const

6.255.2.12 const decaf::util::List<decaf::net::URI>& activemq::transport::failover::FailoverTransport::getPriorityURIs () const

6.255.2.13 long long activemq::transport::failover::FailoverTransport::getReconnectDelay () const

6.255.2.14 virtual std::string activemq::transport::failover::FailoverTransport::getRemoteAddress () const [virtual]

Returns:

the remote address for this connection

Implements **activemq::transport::Transport** (p. 3111).

6.255.2.15 int activemq::transport::failover::FailoverTransport::getStartupMaxReconnectAttempts () const

6.255.2.16 long long activemq::transport::failover::FailoverTransport::getTimeout () const

6.255.2.17 virtual TransportListener* activemq::transport::failover::FailoverTransport::getTransportListener () const [virtual]

Gets the observer of asynchronous events from this **transport** (p. 72).

Returns:

the listener of **transport** (p. 72) events.

Implements **activemq::transport::Transport** (p. 3111).

6.255.2.18 virtual Pointer<wireformat::WireFormat> activemq::transport::failover::FailoverTransport::getWireFormat () const [virtual]

Gets the WireFormat instance that is in use by this **transport** (p. 72). In the case of nested **transport** (p. 72) this method delegates down to the lowest level **transport** (p. 72) that actually maintains a WireFormat info instance.

Returns:

The WireFormat the object used to encode / decode **commands** (p. 61).

Implements **activemq::transport::Transport** (p. 3111).

6.255.2.19 void activemq::transport::failover::FailoverTransport::handleConnectionControl (const Pointer< Command > *control*) [protected]

Called when the Broker sends a ConnectionControl command which could signal that this Client needs to reconnect in order to rebalance the connections on a Broker or the set of Known brokers has changed.

Parameters:

control The ConnectionControl command sent from the Broker.

6.255.2.20 void activemq::transport::failover::FailoverTransport::handleTransportFailure (const decaf::lang::Exception & *error*) [protected]

Called when this class' **TransportListener** (p. 3130) is notified of a Failure.

Parameters:

error - The CMS Exception that was thrown.

Exceptions:

Exception if an error occurs.

6.255.2.21 bool activemq::transport::failover::FailoverTransport::isBackup () const

6.255.2.22 virtual bool activemq::transport::failover::FailoverTransport::isClosed () const [virtual]

Has the **Transport** (p. 3109) been shutdown and no longer usable.

Returns:

true if the **Transport** (p. 3109)

Implements **activemq::transport::Transport** (p. 3112).

6.255.2.23 virtual bool activemq::transport::failover::FailoverTransport::isConnected () const [virtual]

Is the **Transport** (p. 3109) Connected to its Broker.

Returns:

true if a connection has been made.

Implements **activemq::transport::Transport** (p. 3112).

6.255.2.24 bool activemq::transport::failover::FailoverTransport::isConnectedToPriority () const

6.255.2.25 virtual bool activemq::transport::failover::FailoverTransport::isFaultTolerant () const [inline, virtual]

Is this **Transport** (p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.

Returns:

true if the **Transport** (p. 3109) is fault tolerant.

Implements **activemq::transport::Transport** (p. 3112).

6.255.2.26 bool activemq::transport::failover::FailoverTransport::isInitialized () const

6.255.2.27 virtual bool activemq::transport::failover::FailoverTransport::isPending () const [virtual]

Returns:

true if there is a need for the iterate method to be called by this classes task runner.

Implements **activemq::threads::CompositeTask** (p. 1039).

6.255.2.28 bool activemq::transport::failover::FailoverTransport::isPriorityBackup () const

6.255.2.29 bool activemq::transport::failover::FailoverTransport::isRandomize () const

6.255.2.30 bool activemq::transport::failover::FailoverTransport::isRebalanceUpdateURIs () const

6.255.2.31 bool activemq::transport::failover::FailoverTransport::isReconnectSupported () const [virtual]

Returns:

true if reconnect is supported.

Implements **activemq::transport::Transport** (p. 3112).

6.255.2.32 bool activemq::transport::failover::FailoverTransport::isTrackMessages () const

6.255.2.33 bool activemq::transport::failover::FailoverTransport::isTrackTransactionProducers () const

6.255.2.34 bool activemq::transport::failover::FailoverTransport::isUpdateURIsSupported () const [virtual]

Returns:

true if updating uris is supported.

Implements **activemq::transport::Transport** (p. 3113).

6.255.2.35 bool activemq::transport::failover::FailoverTransport::isUseExponentialBackOff () const

6.255.2.36 virtual bool activemq::transport::failover::FailoverTransport::iterate () [virtual]

Performs the actual Reconnect operation for the **FailoverTransport** (p. 1477), when a connection is made this method returns false to indicate it doesn't need to run again, otherwise it returns true to indicate its still trying to connect.

Returns:

false to indicate a connection, true to indicate it needs to try again.

Implements **activemq::threads::Task** (p. 2973).

6.255.2.37 virtual Transport* activemq::transport::failover::FailoverTransport::narrow (const std::type_info & *typeId*) [virtual]

Narrows down a Chain of Transports to a specific **Transport** (p. 3109) to allow a higher level **transport** (p. 72) to skip intermediate Transports in certain circumstances.

Parameters:

typeId - The type_info of the Object we are searching for.

Returns:

the requested Object. or NULL if its not in this chain.

Implements **activemq::transport::Transport** (p. 3113).

6.255.2.38 virtual void activemq::transport::failover::FailoverTransport::oneway (const Pointer< Command > *command*) [virtual]

Sends a one-way command. Does not wait for any response from the broker.

Parameters:

command The command to be sent.

Exceptions:

IOException if an exception occurs during writing of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3113).

6.255.2.39 virtual void activemq::transport::failover::FailoverTransport::reconnect (const decaf::net::URI & *uri*) [virtual]

reconnect to another location

Parameters:

uri The new URI to connect this **Transport** (p. 3109) to.

Exceptions:

IOException on failure or if reconnect is not supported.

Implements **activemq::transport::Transport** (p. 3114).

6.255.2.40 void activemq::transport::failover::FailoverTransport::reconnect (bool *rebalance*)

Indicates that the **Transport** (p. 3109) needs to reconnect to another URI in its list.

Parameters:

rebalance Indicates if the current connection should be broken and reconnected.

6.255.2.41 virtual void activemq::transport::failover::FailoverTransport::removeURI (bool *rebalance*, const List< decaf::net::URI > & *uris*) [virtual]

Remove a URI from the set of URI's that represents the set of Transports that this **Transport** (p. 3109) is composed of, removing a URI for which the composite has created a connected **Transport** (p. 3109) should result in that **Transport** (p. 3109) being disposed of.

Parameters:

rebalance Indicates if the removal should cause a forced reconnect or not.

uris The new URI set to remove to the set this composite maintains.

Implements **activemq::transport::CompositeTransport** (p. 1044).

6.255.2.42 virtual Pointer<Response> activemq::transport::failover::FailoverTransport::request (const Pointer< Command > *command*, unsigned int *timeout*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command The command to be sent.

timeout The time to wait for this response.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3114).

6.255.2.43 virtual Pointer<Response> activemq::transport::failover::FailoverTransport::request (const Pointer< Command > *command*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command the command to be sent.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3114).

6.255.2.44 void activemq::transport::failover::FailoverTransport::restoreTransport (const Pointer< Transport > *transport*) [protected]

Given a **Transport** (p. 3109) restore the **state** (p. 70) of the Client's connection to the Broker using the data accumulated in the State Tracker.

Parameters:

transport (p. 72) The new **Transport** (p. 3109) connected to the Broker.

Exceptions:

IOException if an errors occurs while restoring the old **state** (p. 70).

6.255.2.45 void activemq::transport::failover::FailoverTransport::setBackOffMultiplier (long long *value*)

6.255.2.46 void activemq::transport::failover::FailoverTransport::setBackup (bool *value*)

6.255.2.47 void activemq::transport::failover::FailoverTransport::setBackupPoolSize (int *value*)

6.255.2.48 void activemq::transport::failover::FailoverTransport::setConnectionInterruptProcessingComplet (const Pointer< commands::ConnectionId > *connectionId*)

6.255.2.49 void activemq::transport::failover::FailoverTransport::setInitialized (bool *value*)

6.255.2.50 void activemq::transport::failover::FailoverTransport::setInitialReconnectDelay (long long *value*)

6.255.2.51 void activemq::transport::failover::FailoverTransport::setMaxCacheSize (int *value*)

6.255.2.52 void activemq::transport::failover::FailoverTransport::setMaxPullCacheSize (int *value*)

6.255.2.53 void activemq::transport::failover::FailoverTransport::setMaxReconnectAttempts (int *value*)

6.255.2.54 void activemq::transport::failover::FailoverTransport::setMaxReconnectDelay (long long *value*)

6.255.2.55 void activemq::transport::failover::FailoverTransport::setPriorityBackup (bool *priorityBackup*)

6.255.2.56 void activemq::transport::failover::FailoverTransport::setPriorityURIs (const std::string & *priorityURIs*)

6.255.2.57 void activemq::transport::failover::FailoverTransport::setRandomize (bool *value*)

6.255.2.58 void activemq::transport::failover::FailoverTransport::setRebalanceUpdateURIs (bool *rebalanceUpdateURIs*)

6.255.2.59 void activemq::transport::failover::FailoverTransport::setReconnectDelay (long long *value*)

6.255.2.60 void activemq::transport::failover::FailoverTransport::setReconnectSupported (bool *value*)

6.255.2.61 void activemq::transport::failover::FailoverTransport::setStartupMaxReconnectAttempts (int *value*)

6.255.2.62 void activemq::transport::failover::FailoverTransport::setTimeout (long long *value*)

Parameters:

listener the listener of **transport** (p. 72) events.

Implements **activemq::transport::Transport** (p. 3115).

6.255.2.66 void activemq::transport::failover::FailoverTransport::setUpdateURIsSupported (bool *value*)

6.255.2.67 void activemq::transport::failover::FailoverTransport::setUseExponentialBackOff (bool *value*)

6.255.2.68 virtual void activemq::transport::failover::FailoverTransport::setWireFormat (const Pointer< wireformat::WireFormat > wireFormat *wireFormat*) [inline, virtual]

Sets the WireFormat instance to use.

Parameters:

wireFormat The WireFormat the object used to encode / decode **commands** (p. 61).

Implements **activemq::transport::Transport** (p. 3115).

6.255.2.69 virtual void activemq::transport::failover::FailoverTransport::start () [virtual]

Starts the **Transport** (p. 3109), the send methods of a **Transport** (p. 3109) will throw an exception if used before the **Transport** (p. 3109) is started.

Exceptions:

IOException if and error occurs while starting the **Transport** (p. 3109).

Implements **activemq::transport::Transport** (p. 3115).

6.255.2.70 virtual void activemq::transport::failover::FailoverTransport::stop () [virtual]

Stops the **Transport** (p. 3109).

Exceptions:

IOException if an error occurs while stopping the **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3116).

6.255.2.71 virtual void activemq::transport::failover::FailoverTransport::updateURIs (bool *rebalance*, const decaf::util::List< decaf::net::URI > & *uris*) [virtual]

Updates the set of URIs the **Transport** (p. 3109) can connect to. If the **Transport** (p. 3109) doesn't support updating its URIs then an IOException is thrown.

Parameters:

rebalance Indicates if a forced reconnection should be performed as a result of the update.

uris The new list of URIs that can be used for connection.

Exceptions:

IOException if an error occurs or updates aren't supported.

Implements **activemq::transport::Transport** (p. 3116).

6.255.3 Friends And Related Function Documentation

6.255.3.1 friend class BackupTransportPool [friend]

6.255.3.2 friend class FailoverTransportListener [friend]

The documentation for this class was generated from the following file:

- src/main/activemq/transport/failover/**FailoverTransport.h**

6.256 activemq::transport::failover::FailoverTransportFactory Class Reference

Creates an instance of a **FailoverTransport** (p. 1477).

`#include <src/main/activemq/transport/failover/FailoverTransportFactory.h>`Inheritance diagram for activemq::transport::failover::FailoverTransportFactory:

Public Member Functions

- virtual ~**FailoverTransportFactory** ()
- virtual **Pointer**< **Transport** > **create** (const **decaf::net::URI** &location)

  *Creates a fully configured **Transport** (p. 3109) instance which could be a chain of filters and transports.*

- virtual **Pointer**< **Transport** > **createComposite** (const **decaf::net::URI** &location)

  *Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.*

Protected Member Functions

- virtual **Pointer**< **Transport** > **doCreateComposite** (const **decaf::net::URI** &location, const **decaf::util::Properties** &properties)

  *Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.*

6.256.1 Detailed Description

Creates an instance of a **FailoverTransport** (p. 1477).

Since:

3.0

6.256.2 Constructor & Destructor Documentation

6.256.2.1 virtual activemq::transport::failover::FailoverTransportFactory::~FailoverTransportFactory () [inline, virtual]

6.256.3 Member Function Documentation

6.256.3.1 virtual Pointer<Transport> activemq::transport::failover::FailoverTransportFactory::create (const decaf::net::URI & *location*) [virtual]

Creates a fully configured **Transport** (p. 3109) instance which could be a chain of filters and transports.

Parameters:

location - URI location to connect to plus any properties to assign.

Exceptions:

ActiveMQexception if an error occurs

Implements **activemq::transport::TransportFactory** (p. 3117).

6.256.3.2 virtual Pointer<Transport> activemq::transport::failover::FailoverTransportFactory::createComposite (const decaf::net::URI & *location*) [virtual]

Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.

Parameters:

location - URI location to connect to plus any properties to assign.

Exceptions:

ActiveMQexception if an error occurs

Implements **activemq::transport::TransportFactory** (p. 3118).

6.256.3.3 virtual Pointer<Transport> activemq::transport::failover::FailoverTransportFactory::doCreateComposite (const decaf::net::URI & *location*, const decaf::util::Properties & *properties*) [protected, virtual]

Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.

Parameters:

location - URI location to connect to.

properties - Properties to apply to the **transport** (p. 72).

Returns:

Pointer to a new **FailoverTransport** (p. 1477) instance.

Exceptions:

ActiveMQexception if an error occurs

The documentation for this class was generated from the following file:

- src/main/activemq/transport/failover/**FailoverTransportFactory.h**

6.257 activemq::transport::failover::FailoverTransportListener Class Reference

Utility class used by the **Transport** (p. 3109) to perform the work of responding to events from the active **Transport** (p. 3109).

`#include <src/main/activemq/transport/failover/FailoverTransportListener.h>`Inheritance diagram for activemq::transport::failover::FailoverTransportListener:

Public Member Functions

- **FailoverTransportListener** (**FailoverTransport** *parent)
- virtual ~**FailoverTransportListener** ()
- virtual void **onCommand** (const **Pointer**< **Command** > command)

  Event handler for the receipt of a command.

- virtual void **onException** (const **decaf::lang::Exception** &ex)

  Event handler for an exception from a command ***transport*** *(p. 72).*

- virtual void **transportInterrupted** ()

  The ***transport*** *(p. 72) has suffered an interruption from which it hopes to recover.*

- virtual void **transportResumed** ()

  The ***transport*** *(p. 72) has resumed after an interruption.*

6.257.1 Detailed Description

Utility class used by the **Transport** (p. 3109) to perform the work of responding to events from the active **Transport** (p. 3109).

Since:

3.0

6.257.2 Constructor & Destructor Documentation

6.257.2.1 activemq::transport::failover::FailoverTransportListener::FailoverTransportListener (FailoverTransport * *parent*)

6.257.2.2 virtual activemq::transport::failover::FailoverTransportListener::~FailoverTransportListener () [virtual]

6.257.3 Member Function Documentation

6.257.3.1 virtual void activemq::transport::failover::FailoverTransportListener::onCommand (const Pointer< Command > *command*) [virtual]

Event handler for the receipt of a command. The **transport** (p. 72) passes off all received **commands** (p. 61) to its listeners, the listener then owns the Object. If there is no registered listener the **Transport** (p. 3109) deletes the command upon receipt.

Parameters:

command the received command object.

Implements **activemq::transport::TransportListener** (p. 3130).

6.257.3.2 virtual void activemq::transport::failover::FailoverTransportListener::onException (const decaf::lang::Exception & *ex*) [virtual]

Event handler for an exception from a command **transport** (p. 72).

Parameters:

ex The exception.

Implements **activemq::transport::TransportListener** (p. 3131).

6.257.3.3 virtual void activemq::transport::failover::FailoverTransportListener::transportInterrupted () [virtual]

The **transport** (p. 72) has suffered an interruption from which it hopes to recover.

Implements **activemq::transport::TransportListener** (p. 3131).

6.257.3.4 virtual void activemq::transport::failover::FailoverTransportListener::transportResumed () [virtual]

The **transport** (p. 72) has resumed after an interruption.

Implements **activemq::transport::TransportListener** (p. 3131).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/failover/**FailoverTransportListener.h**

6.258 activemq::core::FifoMessageDispatchChannel Class Reference

`#include <src/main/activemq/core/FifoMessageDispatchChannel.h>`Inheritance diagram for activemq::core::FifoMessageDispatchChannel:

Public Member Functions

- **FifoMessageDispatchChannel** ()
- virtual ~**FifoMessageDispatchChannel** ()
- virtual void **enqueue** (const **Pointer**< **MessageDispatch** > &message)

  Add a Message to the Channel behind all pending message.

- virtual void **enqueueFirst** (const **Pointer**< **MessageDispatch** > &message)

  Add a message to the front of the Channel.

- virtual bool **isEmpty** () const
- virtual bool **isClosed** () const
- virtual bool **isRunning** () const
- virtual **Pointer**< **MessageDispatch** > **dequeue** (long long timeout)

  Used to get an enqueued message.

- virtual **Pointer**< **MessageDispatch** > **dequeueNoWait** ()

  Used to get an enqueued message if there is one queued right now.

- virtual **Pointer**< **MessageDispatch** > **peek** () const

  Peek in the Queue and return the first message in the Channel without removing it from the channel.

- virtual void **start** ()

  Starts dispatch of messages from the Channel.

- virtual void **stop** ()

  Stops dispatch of message from the Channel.

- virtual void **close** ()

  Close this channel no messages will be dispatched after this method is called.

- virtual void **clear** ()

  Clear the Channel, all pending messages are removed.

- virtual int **size** () const
- virtual std::vector< **Pointer**< **MessageDispatch** > > **removeAll** ()

  Remove all messages that are currently in the Channel and return them as a list of Messages.

- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

  Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

6.258.1 Constructor & Destructor Documentation

6.258.1.1 activemq::core::FifoMessageDispatchChannel::FifoMessageDispatchChannel ()

6.258.1.2 virtual activemq::core::FifoMessageDispatchChannel::~FifoMessageDispatchChannel () [virtual]

6.258.2 Member Function Documentation

6.258.2.1 virtual void activemq::core::FifoMessageDispatchChannel::clear () [virtual]

Clear the Channel, all pending messages are removed.

Implements **activemq::core::MessageDispatchChannel** (p. 2138).

6.258.2.2 virtual void activemq::core::FifoMessageDispatchChannel::close () [virtual]

Close this channel no messages will be dispatched after this method is called.

Implements **activemq::core::MessageDispatchChannel** (p. 2138).

6.258.2.3 virtual Pointer<MessageDispatch> activemq::core::FifoMessageDispatchChannel::dequeue (long long *timeout*) [virtual]

Used to get an enqueued message. The amount of time this method blocks is based on the timeout value. - if timeout==-1 then it blocks until a message is received. - if timeout==0 then it it tries to not block at all, it returns a message if it is available - if timeout>0 then it blocks up to timeout amount of time. Expired messages will consumed by this method.

Returns:

null if we timeout or if the consumer is closed.

Exceptions:

ActiveMQException

Implements **activemq::core::MessageDispatchChannel** (p. 2138).

6.258.2.4 virtual Pointer<MessageDispatch> activemq::core::FifoMessageDispatchChannel::dequeueNoWait () [virtual]

Used to get an enqueued message if there is one queued right now. If there is no waiting message than this method returns Null.

Returns:

a message if there is one in the queue.

Implements **activemq::core::MessageDispatchChannel** (p. 2138).

6.258.2.5 virtual void activemq::core::FifoMessageDispatchChannel::enqueue (const Pointer< MessageDispatch > & *message*) [virtual]

Add a Message to the Channel behind all pending message.

Parameters:

message - The message to add to the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.258.2.6 virtual void activemq::core::FifoMessageDispatchChannel::enqueueFirst (const Pointer< MessageDispatch > & *message*) [virtual]

Add a message to the front of the Channel.

Parameters:

message - The Message to add to the front of the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.258.2.7 virtual bool activemq::core::FifoMessageDispatchChannel::isClosed () const [inline, virtual]

Returns:

has the Queue been closed.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.258.2.8 virtual bool activemq::core::FifoMessageDispatchChannel::isEmpty () const [virtual]

Returns:

true if there are no messages in the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.258.2.9 virtual bool activemq::core::FifoMessageDispatchChannel::isRunning () const [inline, virtual]

Returns:

true if the Channel currently running and will dequeue message.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.258.2.10 virtual void activemq::core::FifoMessageDispatchChannel::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

6.258.2.11 virtual void activemq::core::FifoMessageDispatchChannel::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying one of the waiting **threads** (p. 71).

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.258.2.12 virtual void activemq::core::FifoMessageDispatchChannel::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying the waiting **threads** (p. 71).

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.258.2.13 virtual Pointer<MessageDispatch> activemq::core::FifoMessageDispatchChannel::peek () const [virtual]

Peek in the Queue and return the first message in the Channel without removing it from the channel.

Returns:

a message if there is one in the queue.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.258.2.14 virtual std::vector<Pointer<MessageDispatch> > activemq::core::FifoMessageDispatchChannel::removeAll () [virtual]

Remove all messages that are currently in the Channel and return them as a list of Messages.

Returns:

a list of Messages that was previously in the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.258.2.15 virtual int activemq::core::FifoMessageDispatchChannel::size () const [virtual]

Returns:

the number of Messages currently in the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.258.2.16 virtual void activemq::core::FifoMessageDispatchChannel::start () [virtual]

Starts dispatch of messages from the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.258.2.17 virtual void activemq::core::FifoMessageDispatchChannel::stop () [virtual]

Stops dispatch of message from the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.258.2.18 virtual bool activemq::core::FifoMessageDispatchChannel::tryLock () [inline, virtual]

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

6.258.2.19 virtual void activemq::core::FifoMessageDispatchChannel::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

6.258.2.20 virtual void activemq::core::FifoMessageDispatchChannel::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.258.2.21 virtual void activemq::core::FifoMessageDispatchChannel::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.258.2.22 virtual void activemq::core::FifoMessageDispatchChannel::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**FifoMessageDispatchChannel.h**

6.259 decaf::io::FileDescriptor Class Reference

This class servers as an opaque wrapper around an underlying OS level resource that can be used as a source / sink for byte level data such as sockets and files.

`#include <src/main/decaf/io/FileDescriptor.h>`Inheritance diagram for decaf::io::FileDescriptor:

Public Member Functions

- **FileDescriptor** ()
- virtual ~**FileDescriptor** ()
- void **sync** ()

  *Force any/all buffered data for this **FileDescriptor** (p. 1505) to be flushed to the underlying device.*

- bool **valid** ()

  Indicates whether the File Descriptor is valid.

Static Public Attributes

- static **FileDescriptor in**

  A handle to the standard input stream.

- static **FileDescriptor out**

  A handle to the standard output stream.

- static **FileDescriptor err**

  A handle to the standard error stream.

Protected Member Functions

- **FileDescriptor** (long value, bool **readonly**)

Protected Attributes

- long **descriptor**
- bool **readonly**

6.259.1 Detailed Description

This class servers as an opaque wrapper around an underlying OS level resource that can be used as a source / sink for byte level data such as sockets and files.

Since:

1.0

6.259.2 Constructor & Destructor Documentation

6.259.2.1 decaf::io::FileDescriptor::FileDescriptor (long *value*, bool *readonly*) [protected]

6.259.2.2 decaf::io::FileDescriptor::FileDescriptor ()

6.259.2.3 virtual decaf::io::FileDescriptor::~FileDescriptor () [virtual]

6.259.3 Member Function Documentation

6.259.3.1 void decaf::io::FileDescriptor::sync ()

Force any/all buffered data for this **FileDescriptor** (p. 1505) to be flushed to the underlying device. This method blocks until all data is flushed to the underlying device and is used to place the device into a known state. In the case of data that is buffered at a higher level such as a **BufferedOutputStream** (p. 741) the stream must first be flushed before this method can force the data to be sent to the output device.

6.259.3.2 bool decaf::io::FileDescriptor::valid ()

Indicates whether the File Descriptor is valid.

Returns:

true for a valid descriptor such as open socket or file, false otherwise.

6.259.4 Field Documentation

6.259.4.1 long decaf::io::FileDescriptor::descriptor [protected]

6.259.4.2 FileDescriptor decaf::io::FileDescriptor::err [static]

A handle to the standard error stream. Usually, this file descriptor is not used directly, but rather via the output stream known as System::err.

6.259.4.3 FileDescriptor decaf::io::FileDescriptor::in [static]

A handle to the standard input stream. Usually, this file descriptor is not used directly, but rather via the input stream known as System::in.

6.259.4.4 FileDescriptor decaf::io::FileDescriptor::out [static]

A handle to the standard output stream. Usually, this file descriptor is not used directly, but rather via the output stream known as System::out.

6.259.4.5 bool decaf::io::FileDescriptor::readonly [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/io/**FileDescriptor.h**

6.260 decaf::util::logging::Filter Class Reference

A **Filter** (p. 1507) can be used to provide fine grain control over what is logged, beyond the control provided by log levels.

`#include <src/main/decaf/util/logging/Filter.h>`

Public Member Functions

- virtual ~**Filter** ()
- virtual bool **isLoggable** (const **LogRecord** &record) const =0

  Check if a given log record should be published.

6.260.1 Detailed Description

A **Filter** (p. 1507) can be used to provide fine grain control over what is logged, beyond the control provided by log levels. Each **Logger** (p. 1922) and each **Handler** (p. 1577) can have a filter associated with it. The **Logger** (p. 1922) or **Handler** (p. 1577) will call the isLoggable method to check if a given **LogRecord** (p. 1947) should be published. If isLoggable returns false, the **LogRecord** (p. 1947) will be discarded.

6.260.2 Constructor & Destructor Documentation

6.260.2.1 virtual decaf::util::logging::Filter::~Filter () [inline, virtual]

6.260.3 Member Function Documentation

6.260.3.1 virtual bool decaf::util::logging::Filter::isLoggable (const LogRecord & *record*) const [pure virtual]

Check if a given log record should be published.

Parameters:

record the `LogRecord` (p. 1947) to check.

Returns:

true if the record is loggable.

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**Filter.h**

6.261 decaf::io::FilterInputStream Class Reference

A **FilterInputStream** (p. 1508) contains some other input stream, which it uses as its basic source of data, possibly transforming the data along the way or providing additional functionality.

`#include <src/main/decaf/io/FilterInputStream.h>`Inheritance diagram for decaf::io::FilterInputStream:

Public Member Functions

- **FilterInputStream** (**InputStream** ∗**inputStream**, bool **own**=false)

  *Constructor to create a wrapped **InputStream** (p. 1694).*

- virtual ∼**FilterInputStream** ()
- virtual int **available** () const

  Indicates the number of bytes available.
  The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.
  The default implementation of this method returns zero.
  Returns:

  the number of bytes available on this input stream.
  Exceptions:

  ***IOException** (p. 1774) if an I/O error occurs.*

- virtual void **close** ()

  *Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.*
  The default implementation of this method does nothing.
  Exceptions:

  ***IOException** (p. 1774) if an I/O error occurs while closing the **InputStream** (p. 1694).*

- virtual long long **skip** (long long num)

  Skips over and discards n bytes of data from this input stream.
  *The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned. The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.*
  Parameters:

  ***num** The number of bytes to skip.*
  Returns:

  total bytes skipped
  Exceptions:

  ***IOException** (p. 1774) if an I/O error occurs.*
  ***UnsupportedOperationException** if the concrete stream class does not support skipping bytes.*

- virtual void **mark** (int readLimit)

  Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.
  If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.
  Calling mark on a closed stream instance should have no effect.
  The default implementation of this method does nothing.
  Parameters:

  readLimit *The max bytes read before marked position is invalid.*

- virtual void **reset** ()

  Repositions this stream to the position at the time the mark method was last called on this input stream.
  If the method markSupported returns true, then: ∗ If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an ***IOException*** *(p. 1774) might be thrown. ∗ If such an* ***IOException*** *(p. 1774) is not thrown, then the stream is reset to a state such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.*
  If the method markSupported returns false, then: ∗ The call to reset may throw an ***IOException*** *(p. 1774). ∗ If an* ***IOException*** *(p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.*
  The default implementation of this method throws an ***IOException*** *(p. 1774).*
  Exceptions:

  IOException *(p.* ***1774****)* *if an I/O error occurs.*

- virtual bool **markSupported** () const

  Determines if this input stream supports the mark and reset methods.
  Whether or not mark and reset are supported is an invariant property of a particular input stream instance.
  The default implementation of this method returns false.
  Returns:

  true if this stream instance supports marks

Protected Member Functions

- virtual int **doReadByte** ()
- virtual int **doReadArray** (unsigned char ∗buffer, int size)
- virtual int **doReadArrayBounded** (unsigned char ∗buffer, int size, int offset, int length)
- virtual bool **isClosed** () const

Protected Attributes

- **InputStream** ∗ **inputStream**
- bool **own**
- volatile bool **closed**

6.261.1 Detailed Description

A **FilterInputStream** (p. 1508) contains some other input stream, which it uses as its basic source of data, possibly transforming the data along the way or providing additional functionality. The class **FilterInputStream** (p. 1508) itself simply overrides all methods of **InputStream** (p. 1694) with versions that pass all requests to the contained input stream. Subclasses of **FilterInputStream** (p. 1508) may further override some of these methods and may also provide additional methods and fields.

6.261.2 Constructor & Destructor Documentation

6.261.2.1 decaf::io::FilterInputStream::FilterInputStream (InputStream * *inputStream*, bool *own* = `false`)

Constructor to create a wrapped **InputStream** (p. 1694).

Parameters:

inputStream The stream to wrap and filter.

own Indicates if we own the stream object, defaults to false.

6.261.2.2 virtual decaf::io::FilterInputStream::~FilterInputStream () `[virtual]`

6.261.3 Member Function Documentation

6.261.3.1 virtual int decaf::io::FilterInputStream::available () const `[virtual]`

Indicates the number of bytes available.

The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented from **decaf::io::InputStream** (p. 1695).

Reimplemented in **decaf::io::BufferedInputStream** (p. 737), **decaf::io::PushbackInputStream** (p. 2495), and **decaf::util::zip::InflaterInputStream** (p. 1689).

6.261.3.2 virtual void decaf::io::FilterInputStream::close () `[virtual]`

Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.

The default implementation of this method does nothing.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs while closing the **InputStream** (p. 1694).

Reimplemented from **decaf::io::InputStream** (p. 1696).

Reimplemented in **decaf::io::BufferedInputStream** (p. 738), and **decaf::util::zip::InflaterInputStream** (p. 1690).

6.261.3.3 virtual int decaf::io::FilterInputStream::doReadArray (unsigned char * *buffer*, int *size*) [protected, virtual]

Reimplemented from **decaf::io::InputStream** (p. 1696).

6.261.3.4 virtual int decaf::io::FilterInputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::InputStream** (p. 1696).

Reimplemented in **activemq::io::LoggingInputStream** (p. 1935), **decaf::io::BufferedInputStream** (p. 738), **decaf::io::PushbackInputStream** (p. 2495), **decaf::util::zip::CheckedInputStream** (p. 946), and **decaf::util::zip::InflaterInputStream** (p. 1690).

6.261.3.5 virtual int decaf::io::FilterInputStream::doReadByte () [protected, virtual]

Implements **decaf::io::InputStream** (p. 1697).

Reimplemented in **activemq::io::LoggingInputStream** (p. 1935), **decaf::io::BufferedInputStream** (p. 738), **decaf::io::PushbackInputStream** (p. 2495), **decaf::util::zip::CheckedInputStream** (p. 946), and **decaf::util::zip::InflaterInputStream** (p. 1690).

6.261.3.6 virtual bool decaf::io::FilterInputStream::isClosed () const [protected, virtual]

Returns:

true if this stream has been closed.

6.261.3.7 virtual void decaf::io::FilterInputStream::mark (int *readLimit*) [virtual]

Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.

If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.

Calling mark on a closed stream instance should have no effect.

The default implementation of this method does nothing.

Parameters:

readLimit The max bytes read before marked position is invalid.

Reimplemented from **decaf::io::InputStream** (p. 1697).

Reimplemented in **decaf::io::BufferedInputStream** (p. 738), **decaf::io::PushbackInputStream** (p. 2496), and **decaf::util::zip::InflaterInputStream** (p. 1690).

6.261.3.8 virtual bool decaf::io::FilterInputStream::markSupported () const [virtual]

Determines if this input stream supports the mark and reset methods.

Whether or not mark and reset are supported is an invariant property of a particular input stream instance.

The default implementation of this method returns false.

Returns:

true if this stream instance supports marks

Reimplemented from **decaf::io::InputStream** (p. 1697).

Reimplemented in **decaf::io::BufferedInputStream** (p. 738), **decaf::io::PushbackInputStream** (p. 2496), and **decaf::util::zip::InflaterInputStream** (p. 1691).

6.261.3.9 virtual void decaf::io::FilterInputStream::reset () [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

If the method markSupported returns true, then: ∗ If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an **IOException** (p. 1774) might be thrown. ∗ If such an **IOException** (p. 1774) is not thrown, then the stream is reset to a state such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.

If the method markSupported returns false, then: ∗ The call to reset may throw an **IOException** (p. 1774). ∗ If an **IOException** (p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.

The default implementation of this method throws an **IOException** (p. 1774).

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented from **decaf::io::InputStream** (p. 1700).

Reimplemented in **decaf::io::BufferedInputStream** (p. 739), **decaf::io::PushbackInputStream** (p. 2496), and **decaf::util::zip::InflaterInputStream** (p. 1691).

6.261.3.10 virtual long long decaf::io::FilterInputStream::skip (long long *num*) [virtual]

Skips over and discards n bytes of data from this input stream.

The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

Reimplemented from **decaf::io::InputStream** (p. 1700).

Reimplemented in **decaf::io::BufferedInputStream** (p. 739), **decaf::io::PushbackInputStream** (p. 2497), **decaf::util::zip::CheckedInputStream** (p. 946), and **decaf::util::zip::InflaterInputStream** (p. 1692).

6.261.4 Field Documentation

6.261.4.1 volatile bool decaf::io::FilterInputStream::closed [protected]

6.261.4.2 InputStream* decaf::io::FilterInputStream::inputStream [protected]

6.261.4.3 bool decaf::io::FilterInputStream::own [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/io/**FilterInputStream.h**

6.262 decaf::io::FilterOutputStream Class Reference

This class is the superclass of all classes that filter output streams.

`#include <src/main/decaf/io/FilterOutputStream.h>`Inheritance diagram for decaf::io::FilterOutputStream:

Public Member Functions

- **FilterOutputStream** (**OutputStream** ∗**outputStream**, bool **own**=false)

  Constructor, creates a wrapped output stream.

- virtual ∼**FilterOutputStream** ()
- virtual void **flush** ()

  Flushes this stream by writing any buffered output to the underlying stream.
  Exceptions:

  IOException *(*p. ***1774****)* *if an I/O error occurs.*

  The default implementation of this method does nothing.

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.
  The object is generally no longer usable after calling close.
  Exceptions:

  IOException *(*p. ***1774****)* *if an error occurs while closing.*

  The default implementation of this method does nothing.

- virtual std::string **toString** () const

  Output a String representation of this object.
  The default version of this method just prints the Class Name.
  Returns:

  a string representation of the object.

Protected Member Functions

- virtual void **doWriteByte** (unsigned char value)
- virtual void **doWriteArray** (const unsigned char ∗buffer, int size)
- virtual void **doWriteArrayBounded** (const unsigned char ∗buffer, int size, int offset, int length)
- virtual bool **isClosed** () const

Protected Attributes

- **OutputStream** ∗ **outputStream**
- bool **own**
- volatile bool **closed**

6.262.1 Detailed Description

This class is the superclass of all classes that filter output streams. These streams sit on top of an already existing output stream (the underlying output stream) which it uses as its basic sink of data, but possibly transforming the data along the way or providing additional functionality.

The class **FilterOutputStream** (p. 1514) itself simply overrides all methods of **OutputStream** (p. 2333) with versions that pass all requests to the underlying output stream. Subclasses of **FilterOutputStream** (p. 1514) may further override some of these methods as well as provide additional methods and fields.

Due to the lack of garbage collection in C++ a design decision was made to add a boolean parameter to the constructor indicating if the wrapped `InputStream (p. 1694)` is owned by this object. That way creation of the underlying stream can occur in a Java like way. Ex:

DataOutputStream (p. 1270) os = new **DataOutputStream** (p. 1270)(new **OutputStream()** (p. 2334), true)

6.262.2 Constructor & Destructor Documentation

6.262.2.1 decaf::io::FilterOutputStream::FilterOutputStream (OutputStream * *outputStream*, bool *own* = `false`)

Constructor, creates a wrapped output stream.

Parameters:

outputStream the **OutputStream** (p. 2333) to wrap

own If true, this object will control the lifetime of the output stream that it encapsulates.

6.262.2.2 virtual decaf::io::FilterOutputStream::~FilterOutputStream () `[virtual]`

6.262.3 Member Function Documentation

6.262.3.1 virtual void decaf::io::FilterOutputStream::close () `[virtual]`

Closes this object and deallocates the appropriate resources.

The object is generally no longer usable after calling close.

Exceptions:

IOException *(p. 1774)* if an error occurs while closing.

The default implementation of this method does nothing. The close method of **FilterOutputStream** (p. 1514) calls its flush method, and then calls the close method of its underlying output stream.

Reimplemented from **decaf::io::OutputStream** (p. 2334).

Reimplemented in **decaf::util::zip::DeflaterOutputStream** (p. 1355).

6.262.3.2 virtual void decaf::io::FilterOutputStream::doWriteArray (const unsigned char * *buffer*, int *size*) `[protected, virtual]`

Reimplemented from **decaf::io::OutputStream** (p. 2335).

Reimplemented in **decaf::io::BufferedOutputStream** (p. 742).

6.262.3.3 virtual void decaf::io::FilterOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::OutputStream** (p. 2335).

Reimplemented in **activemq::io::LoggingOutputStream** (p. 1936), **decaf::io::BufferedOutputStream** (p. 742), **decaf::io::DataOutputStream** (p. 1271), **decaf::util::zip::CheckedOutputStream** (p. 949), and **decaf::util::zip::DeflaterOutputStream** (p. 1356).

6.262.3.4 virtual void decaf::io::FilterOutputStream::doWriteByte (unsigned char *value*) [protected, virtual]

Implements **decaf::io::OutputStream** (p. 2335).

Reimplemented in **activemq::io::LoggingOutputStream** (p. 1937), **decaf::io::BufferedOutputStream** (p. 742), **decaf::io::DataOutputStream** (p. 1271), **decaf::util::zip::CheckedOutputStream** (p. 949), and **decaf::util::zip::DeflaterOutputStream** (p. 1356).

6.262.3.5 virtual void decaf::io::FilterOutputStream::flush () [virtual]

Flushes this stream by writing any buffered output to the underlying stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

The default implementation of this method does nothing. The flush method of **FilterOutputStream** (p. 1514) calls the flush method of its underlying output stream.

Reimplemented from **decaf::io::OutputStream** (p. 2335).

Reimplemented in **decaf::io::BufferedOutputStream** (p. 742).

6.262.3.6 virtual bool decaf::io::FilterOutputStream::isClosed () const [protected, virtual]

Returns:

true if this stream has been closed.

6.262.3.7 virtual std::string decaf::io::FilterOutputStream::toString () const [virtual]

Output a String representation of this object.

The default version of this method just prints the Class Name.

Returns:

a string representation of the object.

The toString method of **FilterOutputStream** (p. 1514) calls the toString method of its underlying output stream.

Reimplemented from **decaf::io::OutputStream** (p. 2336).

6.262.4 Field Documentation

6.262.4.1 volatile bool decaf::io::FilterOutputStream::closed [protected]

6.262.4.2 OutputStream* decaf::io::FilterOutputStream::outputStream [protected]

6.262.4.3 bool decaf::io::FilterOutputStream::own [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/io/**FilterOutputStream.h**

6.263 decaf::lang::Float Class Reference

`#include <src/main/decaf/lang/Float.h>`Inheritance diagram for decaf::lang::Float:

Public Member Functions

- **Float** (float value)
- **Float** (double value)
- **Float** (const std::string &value)
- virtual ~**Float** ()
- virtual int **compareTo** (const **Float** &f) const

  *Compares this **Float** (p. 1518) instance with another.*

- bool **equals** (const **Float** &f) const
- virtual bool **operator==** (const **Float** &f) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const **Float** &f) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- virtual int **compareTo** (const float &f) const

  *Compares this **Float** (p. 1518) instance with another.*

- bool **equals** (const float &f) const
- virtual bool **operator==** (const float &f) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const float &f) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- std::string **toString** () const
- virtual double **doubleValue** () const

  Answers the double value which the receiver represents.

- virtual float **floatValue** () const

  Answers the float value which the receiver represents.

- virtual unsigned char **byteValue** () const

  Answers the byte value which the receiver represents.

- virtual short **shortValue** () const

  Answers the short value which the receiver represents.

- virtual int **intValue** () const

  Answers the int value which the receiver represents.

- virtual long long **longValue** () const

  Answers the long value which the receiver represents.

- bool **isInfinite** () const
- bool **isNaN** () const

Static Public Member Functions

- static int **compare** (float f1, float f2)

  Compares the two specified double values.

- static int **floatToIntBits** (float value)

  Returns a representation of the specified floating-point value according to the IEEE 754 floating-point "single format" bit layout.

- static int **floatToRawIntBits** (float value)

  Returns a representation of the specified floating-point value according to the IEEE 754 floating-point "single format" bit layout, preserving Not-a-Number (NaN) values.

- static float **intBitsToFloat** (int bits)

  Returns the float value corresponding to a given bit representation.

- static bool **isInfinite** (float value)
- static bool **isNaN** (float value)
- static float **parseFloat** (const std::string &value)

  *Returns a new float initialized to the value represented by the specified string, as performed by the valueOf method of class **Float** (p. 1518).*

- static std::string **toHexString** (float value)

  Returns a hexadecimal string representation of the float argument.

- static std::string **toString** (float value)

  Returns a string representation of the float argument.

- static **Float valueOf** (float value)

  *Returns a **Float** (p. 1518) instance representing the specified float value.*

- static **Float valueOf** (const std::string &value)

  *Returns a **Float** (p. 1518) instance that wraps a primitive float which is parsed from the string value passed.*

Static Public Attributes

- static const int **SIZE**

  The size in bits of the primitive int type.

- static const float **MAX_VALUE**

  The maximum value that the primitive type can hold.

- static const float **MIN_VALUE**

  The minimum value that the primitive type can hold.

- static const float **NaN**

  *Constant for the Not a **Number** (p. 2256) Value.*

- static const float **POSITIVE_INFINITY**

  Constant for Positive Infinity.

- static const float **NEGATIVE_INFINITY**

  Constant for Negative Infinity.

6.263.1 Constructor & Destructor Documentation

6.263.1.1 decaf::lang::Float::Float (float *value*)

Parameters:

value - the primitive type to wrap

6.263.1.2 decaf::lang::Float::Float (double *value*)

Parameters:

value - the primitive type to wrap

6.263.1.3 decaf::lang::Float::Float (const std::string & *value*)

Parameters:

value - the string to convert to a primitive type to wrap

6.263.1.4 virtual decaf::lang::Float::~Float () [inline, virtual]

6.263.2 Member Function Documentation

6.263.2.1 virtual unsigned char decaf::lang::Float::byteValue () const [inline, virtual]

Answers the byte value which the receiver represents.

Returns:

byte the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2256).

6.263.2.2 static int decaf::lang::Float::compare (float *f1*, float *f2*) [static]

Compares the two specified double values. The sign of the integer value returned is the same as that of the integer that would be returned by the call: Float(f1).compareTo(Float(f2))

Parameters:

f1 - the first double to compare

f2 - the second double to compare

Returns:

the value 0 if d1 is numerically equal to f2; a value less than 0 if f1 is numerically less than f2; and a value greater than 0 if f1 is numerically greater than f2.

6.263.2.3 virtual int decaf::lang::Float::compareTo (const float & *f*) const [virtual]

Compares this **Float** (p. 1518) instance with another.

Parameters:

f - the **Float** (p. 1518) instance to be compared

Returns:

zero if this object represents the same integer value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object represents a value less than the passed in value.

Implements **decaf::lang::Comparable< float >** (p. 1031).

6.263.2.4 virtual int decaf::lang::Float::compareTo (const Float & *f*) const [virtual]

Compares this **Float** (p. 1518) instance with another.

Parameters:

f - the **Float** (p. 1518) instance to be compared

Returns:

zero if this object represents the same integer value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object represents a value less than the passed in value.

6.263.2.5 virtual double decaf::lang::Float::doubleValue () const [inline, virtual]

Answers the double value which the receiver represents.

Returns:

double the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.263.2.6 bool decaf::lang::Float::equals (const float & *f*) const [inline, virtual]

Parameters:

f - the **Float** (p. 1518) object to compare against.

Returns:

true if the two **Float** (p. 1518) Objects have the same value.

Implements **decaf::lang::Comparable< float >** (p. 1032).

6.263.2.7 bool decaf::lang::Float::equals (const Float & *f*) const [inline]

Parameters:

f - the **Float** (p. 1518) object to compare against.

Returns:

true if the two **Float** (p. 1518) Objects have the same value.

6.263.2.8 static int decaf::lang::Float::floatToIntBits (float *value*) [static]

Returns a representation of the specified floating-point value according to the IEEE 754 floating-point "single format" bit layout. Bit 31 (the bit that is selected by the mask 0x80000000) represents the sign of the floating-point number. Bits 30-23 (the bits that are selected by the mask 0x7f800000) represent the exponent. Bits 22-0 (the bits that are selected by the mask 0x007fffff) represent the significand (sometimes called the mantissa) of the floating-point number.

If the argument is positive infinity, the result is 0x7f800000. If the argument is negative infinity, the result is 0xff800000. If the argument is NaN, the result is 0x7fc00000.

In all cases, the result is an integer that, when given to the **intBitsToFloat(int)** (p. 1523) method, will produce a floating-point value the same as the argument to floatToIntBits (except all NaN values are collapsed to a single "canonical" NaN value).

Parameters:

value - the float to convert to int bits

Returns:

the int that holds the float's value

Referenced by decaf::util::HashCode< float >::operator()().

6.263.2.9 static int decaf::lang::Float::floatToRawIntBits (float *value*) [static]

Returns a representation of the specified floating-point value according to the IEEE 754 floating-point "single format" bit layout, preserving Not-a-Number (NaN) values. Bit 31 (the bit that is selected by the mask 0x80000000) represents the sign of the floating-point number. Bits 30-23 (the bits that are selected by the mask 0x7f800000) represent the exponent. Bits 22-0 (the bits that are selected by the mask 0x007fffff) represent the significand (sometimes called the mantissa) of the floating-point number.

If the argument is positive infinity, the result is 0x7f800000. If the argument is negative infinity, the result is 0xff800000. If the argument is NaN, the result is the integer representing the actual NaN value. Unlike the floatToIntBits method, intToRawIntBits does not collapse all the bit patterns encoding a NaN to a single "canonical" NaN value.

In all cases, the result is an integer that, when given to the **intBitsToFloat(int)** (p. 1523) method, will produce a floating-point value the same as the argument to floatToRawIntBits.

Parameters:

value The float to convert to a raw int.

Returns:

the raw int value of the float

6.263.2.10 virtual float decaf::lang::Float::floatValue () const [inline, virtual]

Answers the float value which the receiver represents.

Returns:

float the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.263.2.11 static float decaf::lang::Float::intBitsToFloat (int *bits*) [static]

Returns the float value corresponding to a given bit representation. The argument is considered to be a representation of a floating-point value according to the IEEE 754 floating-point "single format" bit layout.

If the argument is 0x7f800000, the result is positive infinity. If the argument is 0xff800000, the result is negative infinity. If the argument is any value in the range 0x7f800001 through 0x7fffffff or in the range 0xff800001 through 0xffffffff, the result is a NaN. No IEEE 754 floating-point operation provided by C++ can distinguish between two NaN values of the same type with different bit patterns. Distinct values of NaN are only distinguishable by use of the **Float::floatToRawIntBits** (p. 1522) method.

Parameters:

bits - the bits of the float encoded as a float

Returns:

a new float created from the int bits.

6.263.2.12 virtual int decaf::lang::Float::intValue () const [inline, virtual]

Answers the int value which the receiver represents.

Returns:

int the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.263.2.13 static bool decaf::lang::Float::isInfinite (float *value*) [static]

Parameters:

value - The float to check.

Returns:

true if the float is equal to infinity.

6.263.2.14 bool decaf::lang::Float::isInfinite () const

Returns:

true if the float is equal to positive infinity.

6.263.2.15 static bool decaf::lang::Float::isNaN (float *value*) [static]

Parameters:

value - The float to check.

Returns:

true if the float is equal to NaN.

6.263.2.16 bool decaf::lang::Float::isNaN () const

Returns:

true if the float is equal to NaN.

6.263.2.17 virtual long long decaf::lang::Float::longValue () const [inline, virtual]

Answers the long value which the receiver represents.

Returns:

long the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.263.2.18 virtual bool decaf::lang::Float::operator< (const float & *f*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

f - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< float >** (p. 1032).

6.263.2.19 virtual bool decaf::lang::Float::operator< (const Float & *f*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

f - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.263.2.20 virtual bool decaf::lang::Float::operator== (const float & *f*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

f - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< float >** (p. 1032).

6.263.2.21 virtual bool decaf::lang::Float::operator== (const Float & *f*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

f - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.263.2.22 static float decaf::lang::Float::parseFloat (const std::string & *value*) [static]

Returns a new float initialized to the value represented by the specified string, as performed by the valueOf method of class **Float** (p. 1518).

Parameters:

value - the string to parse

Returns:

a float parsed from the string

Exceptions:

NumberFormatException

6.263.2.23 virtual short decaf::lang::Float::shortValue () const [inline, virtual]

Answers the short value which the receiver represents.

Returns:

short the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2258).

6.263.2.24 static std::string decaf::lang::Float::toHexString (float *value*) [static]

Returns a hexadecimal string representation of the float argument. All characters mentioned below are ASCII characters.

∗ If the argument is NaN, the result is the string "NaN". ∗ Otherwise, the result is a string that represents the sign and magnitude (absolute value) of the argument. If the sign is negative, the first character of the result is '-'; if the sign is positive, no sign character appears in the result. As for the magnitude m: o If m is infinity, it is represented by the string "Infinity"; thus, positive infinity produces the result "Infinity" and negative infinity produces the result "-Infinity". o If m is zero, it is represented by the string "0x0.0p0"; thus, negative zero produces the result "-0x0.0p0" and positive zero produces the result "0x0.0p0". o If m is a float value with a normalized representation, substrings are used to represent the significand and exponent fields. The significand is represented by the characters "0x1." followed by a lowercase hexadecimal representation of the rest of the significand as a fraction. Trailing zeros in the hexadecimal representation are removed unless all the digits are zero, in which case a single zero is used. Next, the exponent is represented by "p" followed by a decimal string of the unbiased exponent as if produced by a call to **Integer.toString** (p. 1737) on the exponent value. o If m is a float value with a subnormal representation, the significand is represented by the characters "0x0." followed by a hexadecimal representation of the rest of the significand as a fraction. Trailing zeros in the hexadecimal representation are removed. Next, the exponent is represented by "p-126". Note that there must be at least one nonzero digit in a subnormal significand.

Parameters:

value - The float to convert to a string

Returns:

the Hex formatted float string.

6.263.2.25 static std::string decaf::lang::Float::toString (float *value*) [static]

Returns a string representation of the float argument. All characters mentioned below are ASCII characters.

If the argument is NaN, the result is the string "NaN". Otherwise, the result is a string that represents the sign and magnitude (absolute value) of the argument. If the sign is negative, the first character of the result is '-'; if the sign is positive, no sign character appears in the result. As for the magnitude m: o If m is infinity, it is represented by the characters "Infinity"; thus, positive infinity produces the result "Infinity" and negative infinity produces the result "-Infinity". o If m is zero, it is represented by the characters "0.0"; thus, negative zero produces the result "-0.0" and positive zero produces the result "0.0". o If m is greater than or equal to 10-3 but less than 107, then it is represented as the integer part of m, in decimal form with no leading zeroes, followed by '.', followed by one or more decimal digits representing the fractional part of m. o If m is less than 10-3 or greater than or equal to 107, then it is represented in so-called "computerized scientific notation." Let n be the unique integer such that 10n <= m < 10n+1; then let a be the mathematically exact quotient of m and 10n so that 1 <= a < 10. The magnitude is then represented as the integer part of a, as a single decimal digit, followed by '.', followed by decimal digits representing the fractional part of a, followed by the letter 'E', followed by a representation of n as a decimal integer, as produced by the method **Integer.toString(int)** (p. 1737).

Parameters:

value - The float to convert to a string

Returns:

the formatted float string.

6.263.2.26 std::string decaf::lang::Float::toString () const

Returns:

this **Float** (p. 1518) Object as a **String** (p. 2919) Representation

6.263.2.27 static Float decaf::lang::Float::valueOf (const std::string & *value*) [static]

Returns a **Float** (p. 1518) instance that wraps a primitive float which is parsed from the string value passed.

Parameters:

value - the string to parse

Returns:

a new **Float** (p. 1518) instance wrapping the float parsed from value

Exceptions:

NumberFormatException on error.

6.263.2.28 static Float decaf::lang::Float::valueOf (float *value*) [static]

Returns a **Float** (p. 1518) instance representing the specified float value.

Parameters:

value - float to wrap

Returns:

new **Float** (p. 1518) instance wrapping the primitive value

6.263.3 Field Documentation

6.263.3.1 const float decaf::lang::Float::MAX_VALUE [static]

The maximum value that the primitive type can hold.

6.263.3.2 const float decaf::lang::Float::MIN_VALUE [static]

The minimum value that the primitive type can hold.

6.263.3.3 const float decaf::lang::Float::NaN [static]

Constant for the Not a **Number** (p. 2256) Value.

6.263.3.4 const float decaf::lang::Float::NEGATIVE_INFINITY [static]

Constant for Negative Infinity.

6.263.3.5 const float decaf::lang::Float::POSITIVE_INFINITY [static]

Constant for Positive Infinity.

6.263.3.6 const int decaf::lang::Float::SIZE [static]

The size in bits of the primitive int type.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Float.h**

6.264 decaf::internal::nio::FloatArrayBuffer Class Reference

`#include <src/main/decaf/internal/nio/FloatArrayBuffer.h>`Inheritance diagram for decaf::internal::nio::FloatArrayBuffer:

Public Member Functions

- **FloatArrayBuffer** (int size, bool readOnly=false)

  *Creates a **FloatArrayBuffer** (p. 1529) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

- **FloatArrayBuffer** (float *array, int size, int offset, int length, bool readOnly=false)

  *Creates a **FloatArrayBuffer** (p. 1529) object that wraps the given array.*

- **FloatArrayBuffer** (const **decaf::lang::Pointer**< **ByteArrayAdapter** > &array, int offset, int capacity, bool readOnly=false)

  Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset.

- **FloatArrayBuffer** (const **FloatArrayBuffer** &other)

  *Create a **FloatArrayBuffer** (p. 1529) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.*

- virtual ~**FloatArrayBuffer** ()
- virtual float * **array** ()

  Returns the float array that backs this buffer (optional operation).
  Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  *the array that backs this **Buffer** (p. 729).*

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual int **arrayOffset** ()

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  The offset into the backing array where index zero starts.

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual FloatBuffer * **asReadOnlyBuffer** () const

Creates a new, read-only float buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.
If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
Returns:

The new, read-only float buffer which the caller then owns.

- virtual FloatBuffer & **compact** ()

Compacts this buffer.
*The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.*
The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.
Returns:

*a reference to this **FloatBuffer** (p. 1538).*
Exceptions:

***ReadOnlyBufferException** (p. 2520) if this buffer is read-only*

- virtual FloatBuffer * **duplicate** ()

Creates a new float buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
The new buffer will be read-only if, and only if, this buffer is read-only.
Returns:

*a new float **Buffer** (p. 729) which the caller owns.*

- virtual float **get** ()

Relative get method.
Reads the value at this buffer's current position, and then increments the position.
Returns:

the float at the current position.
Exceptions:

***BufferUnderflowException** (p. 757) if there no more data to return.*

- virtual float **get** (int index) const

Absolute get method.
Reads the value at the given index.
Parameters:

***index** The index in the **Buffer** (p. 729) where the float is to be read*
Returns:

the float that is located at the given index

Exceptions:

IndexOutOfBoundsException *if index is not smaller than the buffer's limit*

- virtual bool **hasArray** () const

  Tells whether or not this buffer is backed by an accessible float array.
  If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.
  Returns:

  true if, and only if, this buffer is backed by an array and is not read-only

- virtual bool **isReadOnly** () const

  Tells whether or not this buffer is read-only.
  Returns:

  true if, and only if, this buffer is read-only.

- virtual FloatBuffer & **put** (float value)

  Writes the given floats into this buffer at the current position, and then increments the position.
  Parameters:

  value *The floats value to be written.*
  Returns:

  a reference to this buffer.
  Exceptions:

  BufferOverflowException *(p. 754) if this buffer's current position is not smaller than its limit*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only*

- virtual FloatBuffer & **put** (int index, float value)

  Writes the given floats into this buffer at the given index.
  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data.*
  value *The floats to write.*
  Returns:

  a reference to this buffer.
  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written, or index is negative.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual FloatBuffer * **slice** () const

  Creates a new ***FloatBuffer*** *(p. 1538) whose content is a shared subsequence of this buffer's content.*
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the newly create ***FloatBuffer*** *(p. 1538) which the caller owns.*

Protected Member Functions

- virtual void **setReadOnly** (bool value)

  *Sets this **FloatArrayBuffer** (p. 1529) as Read-Only.*

6.264.1 Constructor & Destructor Documentation

6.264.1.1 decaf::internal::nio::FloatArrayBuffer::FloatArrayBuffer (int *size*, bool *readOnly* = `false`)

Creates a **FloatArrayBuffer** (p. 1529) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

size The size of the array, this is the limit we read and write to.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

IllegalArguementException if the capacity value is negative.

6.264.1.2 decaf::internal::nio::FloatArrayBuffer::FloatArrayBuffer (float * *array*, int *size*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a **FloatArrayBuffer** (p. 1529) object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The actual array to wrap.

size The size of the given array.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if offset is greater than array capacity.

6.264.1.3 decaf::internal::nio::FloatArrayBuffer::FloatArrayBuffer (const decaf::lang::Pointer< ByteArrayAdapter > & *array*, int *offset*, int *capacity*, bool *readOnly* = `false`)

Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset. The capacity and limit of the new **FloatArrayBuffer** (p. 1529) will be that of the remaining capacity of the passed buffer.

Parameters:

array The ByteArrayAdapter to wrap.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if array is NULL

IndexOutOfBoundsException if offset + length is greater than array size.

6.264.1.4 decaf::internal::nio::FloatArrayBuffer::FloatArrayBuffer (const FloatArrayBuffer & *other*)

Create a **FloatArrayBuffer** (p. 1529) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.

Parameters:

other The **FloatArrayBuffer** (p. 1529) this one is to mirror.

6.264.1.5 virtual decaf::internal::nio::FloatArrayBuffer::~FloatArrayBuffer () [virtual]

6.264.2 Member Function Documentation

6.264.2.1 virtual float* decaf::internal::nio::FloatArrayBuffer::array () [virtual]

Returns the float array that backs this buffer (optional operation).

Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::FloatBuffer** (p. 1540).

6.264.2.2 virtual int decaf::internal::nio::FloatArrayBuffer::arrayOffset () [virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.
UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::FloatBuffer** (p. 1541).

6.264.2.3 virtual FloatBuffer* decaf::internal::nio::FloatArrayBuffer::asReadOnlyBuffer () const [virtual]

Creates a new, read-only float buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only float buffer which the caller then owns.

Implements **decaf::nio::FloatBuffer** (p. 1541).

6.264.2.4 virtual FloatBuffer& decaf::internal::nio::FloatArrayBuffer::compact () [virtual]

Compacts this buffer.

The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **FloatBuffer** (p. 1538).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implements **decaf::nio::FloatBuffer** (p. 1541).

6.264.2.5 virtual FloatBuffer* decaf::internal::nio::FloatArrayBuffer::duplicate () [virtual]

Creates a new float buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new float **Buffer** (p. 729) which the caller owns.

Implements **decaf::nio::FloatBuffer** (p. 1542).

6.264.2.6 virtual float decaf::internal::nio::FloatArrayBuffer::get (int *index*) const [virtual]

Absolute get method.

Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the float is to be read

Returns:

the float that is located at the given index

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit

Implements **decaf::nio::FloatBuffer** (p. 1543).

6.264.2.7 virtual float decaf::internal::nio::FloatArrayBuffer::get () [virtual]

Relative get method.

Reads the value at this buffer's current position, and then increments the position.

Returns:

the float at the current position.

Exceptions:

BufferUnderflowException *(p. 757)* if there no more data to return.

Implements **decaf::nio::FloatBuffer** (p. 1543).

6.264.2.8 virtual bool decaf::internal::nio::FloatArrayBuffer::hasArray () const [inline, virtual]

Tells whether or not this buffer is backed by an accessible float array.

If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only

Implements **decaf::nio::FloatBuffer** (p. 1544).

6.264.2.9 virtual bool decaf::internal::nio::FloatArrayBuffer::isReadOnly () const [inline, virtual]

Tells whether or not this buffer is read-only.

Returns:

true if, and only if, this buffer is read-only.

Implements **decaf::nio::Buffer** (p. 732).

6.264.2.10 virtual FloatBuffer& decaf::internal::nio::FloatArrayBuffer::put (int *index*, float *value*) [virtual]

Writes the given floats into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The floats to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::FloatBuffer** (p. 1544).

6.264.2.11 virtual FloatBuffer& decaf::internal::nio::FloatArrayBuffer::put (float *value*) [virtual]

Writes the given floats into this buffer at the current position, and then increments the position.

Parameters:

value The floats value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. ***754****)* if this buffer's current position is not smaller than its limit

ReadOnlyBufferException *(*p. ***2520****)* if this buffer is read-only

Implements **decaf::nio::FloatBuffer** (p. 1544).

6.264.2.12 virtual void decaf::internal::nio::FloatArrayBuffer::setReadOnly (bool *value*) [inline, protected, virtual]

Sets this **FloatArrayBuffer** (p. 1529) as Read-Only.

Parameters:

value Boolean value, true if this buffer is to be read-only, false otherwise.

6.264.2.13 virtual FloatBuffer* decaf::internal::nio::FloatArrayBuffer::slice () const [virtual]

Creates a new **FloatBuffer** (p. 1538) whose content is a shared subsequence of this buffer's content.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **FloatBuffer** (p. 1538) which the caller owns.

Implements **decaf::nio::FloatBuffer** (p. 1546).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/nio/**FloatArrayBuffer.h**

6.265 decaf::nio::FloatBuffer Class Reference

This class defines four categories of operations upon float buffers:.

`#include <src/main/decaf/nio/FloatBuffer.h>`Inheritance diagram for decaf::nio::FloatBuffer:

Public Member Functions

- virtual ~**FloatBuffer** ()
- virtual std::string **toString** () const
- virtual float * **array** ()=0

  Returns the float array that backs this buffer (optional operation).

- virtual int **arrayOffset** ()=0

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

- virtual **FloatBuffer** * **asReadOnlyBuffer** () const =0

  Creates a new, read-only float buffer that shares this buffer's content.

- virtual **FloatBuffer** & **compact** ()=0

  Compacts this buffer.

- virtual **FloatBuffer** * **duplicate** ()=0

  Creates a new float buffer that shares this buffer's content.

- virtual float **get** ()=0

  Relative get method.

- virtual float **get** (int index) const =0

  Absolute get method.

- **FloatBuffer** & **get** (std::vector< float > buffer)

  Relative bulk get method.

- **FloatBuffer** & **get** (float *buffer, int size, int offset, int length)

  Relative bulk get method.

- virtual bool **hasArray** () const =0

  Tells whether or not this buffer is backed by an accessible float array.

- **FloatBuffer** & **put** (**FloatBuffer** &src)

  This method transfers the floats remaining in the given source buffer into this buffer.

- **FloatBuffer** & **put** (const float *buffer, int size, int offset, int length)

  This method transfers floats into this buffer from the given source array.

- **FloatBuffer** & **put** (std::vector< float > &buffer)

  This method transfers the entire content of the given source floats array into this buffer.

- virtual **FloatBuffer** & **put** (float value)=0

  Writes the given floats into this buffer at the current position, and then increments the position.

- virtual **FloatBuffer** & **put** (int index, float value)=0

  Writes the given floats into this buffer at the given index.

- virtual **FloatBuffer** * **slice** () const =0

  *Creates a new **FloatBuffer** (p. 1538) whose content is a shared subsequence of this buffer's content.*

- virtual int **compareTo** (const **FloatBuffer** &value) const

- virtual bool **equals** (const **FloatBuffer** &value) const

- virtual bool **operator==** (const **FloatBuffer** &value) const

- virtual bool **operator<** (const **FloatBuffer** &value) const

Static Public Member Functions

- static **FloatBuffer** * **allocate** (int capacity)

  Allocates a new Double buffer.

- static **FloatBuffer** * **wrap** (float *array, int size, int offset, int length)

  *Wraps the passed buffer with a new **FloatBuffer** (p. 1538).*

- static **FloatBuffer** * **wrap** (std::vector< float > &buffer)

  *Wraps the passed STL float Vector in a **FloatBuffer** (p. 1538).*

Protected Member Functions

- **FloatBuffer** (int capacity)

  *Creates a **FloatBuffer** (p. 1538) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

6.265.1 Detailed Description

This class defines four categories of operations upon float buffers:. o Absolute and relative get and put methods that read and write single floats; o Relative bulk get methods that transfer contiguous sequences of floats from this buffer into an array; and o Relative bulk put methods that transfer contiguous sequences of floats from a float array or some other float buffer into this buffer o Methods for compacting, duplicating, and slicing a float buffer.

Double buffers can be created either by allocation, which allocates space for the buffer's content, by wrapping an existing float array into a buffer, or by creating a view of an existing byte buffer

Methods in this class that do not otherwise have a value to return are specified to return the buffer upon which they are invoked. This allows method invocations to be chained.

6.265.2 Constructor & Destructor Documentation

6.265.2.1 decaf::nio::FloatBuffer::FloatBuffer (int *capacity*) [protected]

Creates a **FloatBuffer** (p. 1538) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

capacity The size and limit of the **Buffer** (p. 729) in floats.

Exceptions:

IllegalArguementException if capacity is negative.

6.265.2.2 virtual decaf::nio::FloatBuffer::~FloatBuffer () [inline, virtual]

6.265.3 Member Function Documentation

6.265.3.1 static FloatBuffer* decaf::nio::FloatBuffer::allocate (int *capacity*) [static]

Allocates a new Double buffer. The new buffer's position will be zero, its limit will be its capacity, and its mark will be undefined. It will have a backing array, and its array offset will be zero.

Parameters:

capacity The size of the Double buffer in floats.

Returns:

the **FloatBuffer** (p. 1538) that was allocated, caller owns.

6.265.3.2 virtual float* decaf::nio::FloatBuffer::array () [pure virtual]

Returns the float array that backs this buffer (optional operation). Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1533).

6.265.3.3 virtual int decaf::nio::FloatBuffer::arrayOffset () [pure virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation). Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1533).

6.265.3.4 virtual FloatBuffer* decaf::nio::FloatBuffer::asReadOnlyBuffer () const [pure virtual]

Creates a new, read-only float buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only float buffer which the caller then owns.

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1534).

6.265.3.5 virtual FloatBuffer& decaf::nio::FloatBuffer::compact () [pure virtual]

Compacts this buffer. The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **FloatBuffer** (p. 1538).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1534).

6.265.3.6 virtual int decaf::nio::FloatBuffer::compareTo (const FloatBuffer & *value*) const [virtual]

6.265.3.7 virtual FloatBuffer* decaf::nio::FloatBuffer::duplicate () [pure virtual]

Creates a new float buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new float **Buffer** (p. 729) which the caller owns.

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1535).

6.265.3.8 virtual bool decaf::nio::FloatBuffer::equals (const FloatBuffer & *value*) const [virtual]

6.265.3.9 FloatBuffer& decaf::nio::FloatBuffer::get (float * *buffer*, int *size*, int *offset*, int *length*)

Relative bulk get method. This method transfers floats from this buffer into the given destination array. If there are fewer floats remaining in the buffer than are required to satisfy the request, that is, if length > **remaining()** (p. 734), then no bytes are transferred and a **BufferUnderflowException** (p. 757) is thrown.

Otherwise, this method copies length floats from this buffer into the given array, starting at the current position of this buffer and at the given offset in the array. The position of this buffer is then incremented by length.

Parameters:

buffer The pointer to an allocated buffer to fill.

size The size of the passed in buffer.

offset The position in the buffer to start filling.

length The amount of data to put in the passed buffer.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(p. 757)* if there are fewer than length floats remaining in this buffer

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.265.3.10 FloatBuffer& decaf::nio::FloatBuffer::get (std::vector< float > *buffer*)

Relative bulk get method. This method transfers values from this buffer into the given destination vector. An invocation of this method of the form src.get(a) behaves in exactly the same way as the invocation. The vector must be sized to the amount of data that is to be read, that is to say, the caller should call buffer.resize(N) before calling this get method.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(p. 757)* if there are fewer than length floats remaining in this buffer

6.265.3.11 virtual float decaf::nio::FloatBuffer::get (int *index*) const [pure virtual]

Absolute get method. Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the float is to be read

Returns:

the float that is located at the given index

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1535).

6.265.3.12 virtual float decaf::nio::FloatBuffer::get () [pure virtual]

Relative get method. Reads the value at this buffer's current position, and then increments the position.

Returns:

the float at the current position.

Exceptions:

BufferUnderflowException *(*p. *757)* if there no more data to return.

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1535).

6.265.3.13 virtual bool decaf::nio::FloatBuffer::hasArray () const [pure virtual]

Tells whether or not this buffer is backed by an accessible float array. If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1536).

6.265.3.14 virtual bool decaf::nio::FloatBuffer::operator< (const FloatBuffer & *value*) const [virtual]

6.265.3.15 virtual bool decaf::nio::FloatBuffer::operator== (const FloatBuffer & *value*) const [virtual]

6.265.3.16 virtual FloatBuffer& decaf::nio::FloatBuffer::put (int *index*, float *value*) [pure virtual]

Writes the given floats into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The floats to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written, or index is negative.

ReadOnlyBufferException *(*p. *2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1536).

6.265.3.17 virtual FloatBuffer& decaf::nio::FloatBuffer::put (float *value*) [pure virtual]

Writes the given floats into this buffer at the current position, and then increments the position.

Parameters:

value The floats value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if this buffer's current position is not smaller than its limit

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1536).

6.265.3.18 FloatBuffer& decaf::nio::FloatBuffer::put (std::vector< float > & *buffer*)

This method transfers the entire content of the given source floats array into this buffer. This is the same as calling put(&buffer[0], 0, buffer.size().

Parameters:

buffer The buffer whose contents are copied to this **FloatBuffer** (p. 1538)

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

6.265.3.19 FloatBuffer& decaf::nio::FloatBuffer::put (const float * *buffer*, int *size*, int *offset*, int *length*)

This method transfers floats into this buffer from the given source array. If there are more floats to be copied from the array than remain in this buffer, that is, if length > **remaining()** (p. 734), then no floats are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies length bytes from the given array into this buffer, starting at the given offset in the array and at the current position of this buffer. The position of this buffer is then incremented by length.

Parameters:

buffer The array from which floats are to be read.

size The size of the passed in buffer.

offset The offset within the array of the first float to be read.

length The number of floats to be read from the given array.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.265.3.20 FloatBuffer& decaf::nio::FloatBuffer::put (FloatBuffer & *src*)

This method transfers the floats remaining in the given source buffer into this buffer. If there are more floats remaining in the source buffer than in this buffer, that is, if src.remaining() > **remaining()** (p. 734), then no floats are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies n = src.remaining() floats from the given buffer into this buffer, starting at each buffer's current position. The positions of both buffers are then incremented by n.

Parameters:

src The buffer to take floats from an place in this one.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer for the remaining floats in the source buffer

IllegalArgumentException if the source buffer is this buffer.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

6.265.3.21 virtual FloatBuffer* decaf::nio::FloatBuffer::slice () const [pure virtual]

Creates a new **FloatBuffer** (p. 1538) whose content is a shared subsequence of this buffer's content. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **FloatBuffer** (p. 1538) which the caller owns.

Implemented in **decaf::internal::nio::FloatArrayBuffer** (p. 1537).

6.265.3.22 virtual std::string decaf::nio::FloatBuffer::toString () const [virtual]

Returns:

a std::string describing this object

6.265.3.23 static FloatBuffer* decaf::nio::FloatBuffer::wrap (std::vector< float > & *buffer*) [static]

Wraps the passed STL float Vector in a **FloatBuffer** (p. 1538). The new buffer will be backed by the given float array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer - The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new **FloatBuffer** (p. 1538) that is backed by buffer, caller owns.

6.265.3.24 static FloatBuffer* decaf::nio::FloatBuffer::wrap (float * *array*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new **FloatBuffer** (p. 1538). The new buffer will be backed by the given float array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

array The array that will back the new buffer.

size The size of the array that was passed in.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new **FloatBuffer** (p. 1538) that is backed by buffer, caller owns.

Exceptions:

NullPointerException if the array pointer is NULL.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**FloatBuffer.h**

6.266 decaf::io::Flushable Class Reference

A **Flushable** (p. 1548) is a destination of data that can be flushed.

`#include <src/main/decaf/io/Flushable.h>`Inheritance diagram for decaf::io::Flushable:

Public Member Functions

- virtual ~**Flushable** ()
- virtual void **flush** ()=0

  Flushes this stream by writing any buffered output to the underlying stream.

6.266.1 Detailed Description

A **Flushable** (p. 1548) is a destination of data that can be flushed. The flush method is invoked to write any buffered output to the underlying stream.

Since:

1.0

6.266.2 Constructor & Destructor Documentation

6.266.2.1 virtual decaf::io::Flushable::~Flushable () [virtual]

6.266.3 Member Function Documentation

6.266.3.1 virtual void decaf::io::Flushable::flush () [pure virtual]

Flushes this stream by writing any buffered output to the underlying stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Implemented in **decaf::internal::io::StandardErrorOutputStream** (p. 2830), **decaf::internal::io::StandardOutputStream** (p. 2835), **decaf::io::BufferedOutputStream** (p. 742), **decaf::io::FilterOutputStream** (p. 1516), **decaf::io::OutputStream** (p. 2335), and **decaf::io::OutputStreamWriter** (p. 2341).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**Flushable.h**

6.267 activemq::commands::FlushCommand Class Reference

`#include <src/main/activemq/commands/FlushCommand.h>`Inheritance diagram for activemq::commands::FlushCommand:

Public Member Functions

- **FlushCommand** ()
- virtual ~**FlushCommand** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **FlushCommand** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual bool **isFlushCommand** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_FLUSHCOMMAND** = 15

6.267.1 Constructor & Destructor Documentation

6.267.1.1 activemq::commands::FlushCommand::FlushCommand ()

6.267.1.2 virtual activemq::commands::FlushCommand::~FlushCommand () [virtual]

6.267.2 Member Function Documentation

6.267.2.1 virtual FlushCommand* activemq::commands::FlushCommand::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.267.2.2 virtual void activemq::commands::FlushCommand::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.267.2.3 virtual bool activemq::commands::FlushCommand::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.267.2.4 virtual unsigned char activemq::commands::FlushCommand::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.267.2.5 virtual bool activemq::commands::FlushCommand::isFlushCommand () const [inline, virtual]

Returns:

an answer of true to the **isFlushCommand()** (p. 1551) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 632).

6.267.2.6 virtual std::string activemq::commands::FlushCommand::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.267.2.7 virtual Pointer<Command> activemq::commands::FlushCommand::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.267.3 Field Documentation

6.267.3.1 const unsigned char activemq::commands::FlushCommand::ID_FLUSHCOMMAND = 15 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**FlushCommand.h**

6.268 activemq::wireformat::openwire::marshal::generated::FlushComma Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **FlushCommandMarshaller** (p. 1552).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/FlushCommandMarshaller.h>`Inheri
diagram for activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller:

Public Member Functions

- **FlushCommandMarshaller** ()
- virtual ~**FlushCommandMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.268.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **FlushCommandMarshaller** (p. 1552). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.268.2 Constructor & Destructor Documentation

6.268.2.1 activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller::FlushCo
() [inline]

6.268.2.2 virtual activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller::~FlushC
() [inline, virtual]

6.268.3 Member Function Documentation

6.268.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller::createObje
() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.268.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller::getDataStr
() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.268.3.3 virtual void activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller::looseMarsh
(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.268.3.4 virtual void activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller::looseUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.268.3.5 virtual int activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.268.3.6 virtual void activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.268.3.7 virtual void activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller::tightUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**FlushCommandMarshaller.h**

6.269 decaf::util::logging::Formatter Class Reference

A **Formatter** (p. 1556) provides support for formatting LogRecords.

`#include <src/main/decaf/util/logging/Formatter.h>`Inheritance diagram for decaf::util::logging::Formatter:

Public Member Functions

- virtual ~**Formatter** ()
- virtual std::string **format** (const **LogRecord** &record) const =0

  Format the given log record and return the formatted string.
- virtual std::string **formatMessage** (const **LogRecord** &record) const

  Format the message string from a log record.
- virtual std::string **getHead** (const **Handler** *handler DECAF_UNUSED)

  Return the header string for a set of formatted records.
- virtual std::string **getTail** (const **Handler** *handler DECAF_UNUSED)

  Return the tail string for a set of formatted records.

6.269.1 Detailed Description

A **Formatter** (p. 1556) provides support for formatting LogRecords. Typically each **logging** (p. 134) **Handler** (p. 1577) will have a **Formatter** (p. 1556) associated with it. The **Formatter** (p. 1556) takes a **LogRecord** (p. 1947) and converts it to a string.

Some formatters (such as the **XMLFormatter** (p. 3277)) need to wrap head and tail strings around a set of formatted records. The getHeader and getTail methods can be used to obtain these strings.

6.269.2 Constructor & Destructor Documentation

6.269.2.1 virtual decaf::util::logging::Formatter::~Formatter () `[inline, virtual]`

6.269.3 Member Function Documentation

6.269.3.1 virtual std::string decaf::util::logging::Formatter::format (const LogRecord & *record*) const `[pure virtual]`

Format the given log record and return the formatted string.

Parameters:

record The Log Record to Format

Returns:

the formatted record.

Implemented in **decaf::util::logging::SimpleFormatter** (p. 2744), and **decaf::util::logging::XMLFormatter** (p. 3277).

6.269.3.2 virtual std::string decaf::util::logging::Formatter::formatMessage (const LogRecord & *record*) const [virtual]

Format the message string from a log record.

Parameters:

record The Log Record to Format

Returns:

the formatted message

6.269.3.3 virtual std::string decaf::util::logging::Formatter::getHead (const Handler *handler *DECAF_UNUSED*) [inline, virtual]

Return the header string for a set of formatted records. In the default implementation this method should return empty string.

Parameters:

handler The target handler, can be NULL.

Returns:

the head string.

6.269.3.4 virtual std::string decaf::util::logging::Formatter::getTail (const Handler *handler *DECAF_UNUSED*) [inline, virtual]

Return the tail string for a set of formatted records. In the default implementation this method should return empty string

Parameters:

handler the target handler, can be null

Returns:

the tail string

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**Formatter.h**

6.270 decaf::util::concurrent::Future< V > Class Template Reference

A **Future** (p. 1558) represents the result of an asynchronous computation.

`#include <src/main/decaf/util/concurrent/Future.h>`Inheritance diagram for decaf::util::concurrent::Future< V >:

Public Member Functions

- virtual ~**Future** ()
- virtual V **get** ()=0

  Waits if necessary for the computation to complete, and then retrieves its result.

- virtual V **get** (long long timeout, const **TimeUnit** &unit)=0

  Waits if necessary for at most the given time for the computation to complete, and then retrieves its result, if available.

6.270.1 Detailed Description

template<typename V> class decaf::util::concurrent::Future< V >

A **Future** (p. 1558) represents the result of an asynchronous computation. Methods are provided to check if the computation is complete, to wait for its completion, and to retrieve the result of the computation. The result can only be retrieved using method get when the computation has completed, blocking if necessary until it is ready. Cancellation is performed by the cancel method. Additional methods are provided to determine if the task completed normally or was canceled. Once a computation has completed, the computation cannot be canceled. If you would like to use a **Future** (p. 1558) for the sake of cancellability but not provide a usable result, you can declare types of the form Future<void*> and return null as a result of the underlying task.

Since:

1.0

6.270.2 Constructor & Destructor Documentation

6.270.2.1 template<typename V> virtual decaf::util::concurrent::Future< V >::~Future () [inline, virtual]

6.270.3 Member Function Documentation

6.270.3.1 template<typename V> virtual V decaf::util::concurrent::Future< V >::get (long long *timeout*, const TimeUnit & *unit*) [pure virtual]

Waits if necessary for at most the given time for the computation to complete, and then retrieves its result, if available.

Parameters:

timeout The maximum time to wait for this **Future** (p. 1558) to finish.

unit The time unit of the timeout argument.

Returns:

the computed result

Exceptions:

CancellationException *(p. 886)* if the computation was canceled

ExecutionException *(p. 1460)* if the computation threw an exception

InterruptedException if the current thread was interrupted while waiting

TimeoutException *(p. 3052)* if the wait timed out before the future completed.

Implemented in **decaf::util::concurrent::FutureTask< T >** (p. 1565).

6.270.3.2 template<typename V> virtual V decaf::util::concurrent::Future< V >::get () [pure virtual]

Waits if necessary for the computation to complete, and then retrieves its result.

Returns:

the computed result.

Exceptions:

CancellationException *(p. 886)* if the computation was canceled

ExecutionException *(p. 1460)* if the computation threw an exception

InterruptedException if the current thread was interrupted while waiting

Implemented in **decaf::util::concurrent::FutureTask< T >** (p. 1565).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Future.h**

6.271 activemq::transport::FutureResponse Class Reference

A container that holds a response object.

`#include <src/main/activemq/transport/FutureResponse.h>`

Public Member Functions

- **FutureResponse** ()
- **FutureResponse** (const **Pointer**< **ResponseCallback** > responseCallback)
- virtual ~**FutureResponse** ()
- **Pointer**< **Response** > **getResponse** () const

  Getters for the response property.

- **Pointer**< **Response** > **getResponse** ()
- **Pointer**< **Response** > **getResponse** (unsigned int timeout) const

  Getters for the response property.

- **Pointer**< **Response** > **getResponse** (unsigned int timeout)
- void **setResponse** (**Pointer**< **Response** > response)

  Setter for the response property.

6.271.1 Detailed Description

A container that holds a response object. Callers of the getResponse method will block until a response has been receive unless they call the getRepsonse that takes a timeout.

6.271.2 Constructor & Destructor Documentation

6.271.2.1 activemq::transport::FutureResponse::FutureResponse ()

6.271.2.2 activemq::transport::FutureResponse::FutureResponse (const Pointer< ResponseCallback > *responseCallback*)

6.271.2.3 virtual activemq::transport::FutureResponse::~FutureResponse () [virtual]

6.271.3 Member Function Documentation

6.271.3.1 Pointer<Response> activemq::transport::FutureResponse::getResponse (unsigned int *timeout*)

6.271.3.2 Pointer<Response> activemq::transport::FutureResponse::getResponse (unsigned int *timeout*) const

Getters for the response property. Timed Wait.

Parameters:

timeout Time to wait in milliseconds for a Response.

Returns:

the response object for the request

Exceptions:

InterruptedIOException if the wait for response is interrupted.

6.271.3.3 Pointer<Response> activemq::transport::FutureResponse::getResponse ()

6.271.3.4 Pointer<Response> activemq::transport::FutureResponse::getResponse () const

Getters for the response property. Infinite Wait.

Returns:

the response object for the request.

Exceptions:

InterruptedIOException if the wait for response is interrupted.

6.271.3.5 void activemq::transport::FutureResponse::setResponse (Pointer< Response > *response*)

Setter for the response property.

Parameters:

response the response object for the request.

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**FutureResponse.h**

6.272 decaf::util::concurrent::FutureTask< T > Class Template Reference

A cancellable asynchronous computation.

`#include <src/main/decaf/util/concurrent/FutureTask.h>`Inheritance diagram for decaf::util::concurrent::FutureTask< T >:

Data Structures

- class **FutureTaskAdapter**

  *A **Callable** (p. 882) subclass that runs given task and returns given result, used to wrap either a Runnable or **Callable** (p. 882) pointer and.*

- class **FutureTaskSync**

  *Synchronization control for **FutureTask** (p. 1562).*

Public Member Functions

- **FutureTask** (**Callable**< T > *callable, bool takeOwnership=true)

  *Creates a **FutureTask** (p. 1562) instance that will, upon running, execute the given **Callable** (p. 882).*

- **FutureTask** (**decaf::lang::Runnable** *runnable, const T &result, bool takeOwnership=true)

  *Creates a **FutureTask** (p. 1562) that will, upon running, execute the given Runnable, and arrange that the get method will return the given result on successful completion.*

- virtual ~**FutureTask** ()
- virtual bool **isCancelled** () const

  Returns true if this task was canceled before it completed normally.

- virtual bool **isDone** () const

  Returns true if this task completed.

- virtual bool **cancel** (bool mayInterruptIfRunning)

  Attempts to cancel execution of this task.

- virtual T **get** ()

  Waits if necessary for the computation to complete, and then retrieves its result.

- virtual T **get** (long long timeout, const **TimeUnit** &unit)

  Waits if necessary for at most the given time for the computation to complete, and then retrieves its result, if available.

- **FutureTask**< T > * **clone** ()
- virtual void **done** ()

Protected method invoked when this task transitions to state isDone (whether normally or via cancellation).

- virtual void **set** (const T &result)

  Sets the result of this ***Future*** *(p. 1558) to the given value unless this future has already been set or has been cancelled.*

- virtual void **setException** (const **decaf::lang::Exception** &error)

  Causes this future to report an ***ExecutionException*** *(p. 1460) with the given Exception as its cause, unless this* ***Future*** *(p. 1558) has already been set or has been canceled.*

- virtual void **run** ()

  Run method - called by the Thread class in the context of the thread.

- virtual bool **runAndReset** ()

  Executes the computation without setting its result, and then resets this ***Future*** *(p. 1558) to initial state, failing to do so if the computation encounters an exception or is canceled.*

- **FutureTask** (const **FutureTask**< T > &source)
- **FutureTask**< T > & **operator**= (const **FutureTask**< T > &source)

6.272.1 Detailed Description

template<typename T> class decaf::util::concurrent::FutureTask< T >

A cancellable asynchronous computation. This class provides a base implementation of **Future** (p. 1558), with methods to start and cancel a computation, query to see if the computation is complete, and retrieve the result of the computation. The result can only be retrieved when the computation has completed; the get method will block if the computation has not yet completed. Once the computation has completed, the computation cannot be restarted or canceled.

A **FutureTask** (p. 1562) can be used to wrap a **Callable** (p. 882) or Runnable object. Because **FutureTask** (p. 1562) implements Runnable, a **FutureTask** (p. 1562) can be submitted to an **Executor** (p. 1463) for execution.

In addition to serving as a stand-alone class, this class provides protected functionality that may be useful when creating customized task classes.

Since:

1.0

6.272.2 Constructor & Destructor Documentation

6.272.2.1 template<typename T> decaf::util::concurrent::FutureTask< T >::FutureTask (Callable< T > * *callable*, bool *takeOwnership* = `true`) `[inline]`

Creates a **FutureTask** (p. 1562) instance that will, upon running, execute the given **Callable** (p. 882).

Parameters:

callable The callable task that will be invoked when run.

takeOwnership Boolean value indicating if the **Executor** (p. 1463) now owns the pointer to the task.

Exceptions:

NullPointerException if callable pointer is NULL

References NULL.

6.272.2.2 template<typename T> decaf::util::concurrent::FutureTask< T >::FutureTask (decaf::lang::Runnable * *runnable*, const T & *result*, bool *takeOwnership* = `true`) `[inline]`

Creates a **FutureTask** (p. 1562) that will, upon running, execute the given Runnable, and arrange that the get method will return the given result on successful completion.

Parameters:

runnable The runnable task that the future will execute.

result The result to return on successful completion.

takeOwnership Boolean value indicating if the **Executor** (p. 1463) now owns the pointer to the task.

Exceptions:

NullPointerException if runnable is NULL.

References NULL.

6.272.2.3 template<typename T> virtual decaf::util::concurrent::FutureTask< T >::~FutureTask () `[inline, virtual]`

6.272.2.4 template<typename T> decaf::util::concurrent::FutureTask< T >::FutureTask (const FutureTask< T > & *source*) `[inline]`

6.272.3 Member Function Documentation

6.272.3.1 template<typename T> virtual bool decaf::util::concurrent::FutureTask< T >::cancel (bool *mayInterruptIfRunning*) `[inline, virtual]`

Attempts to cancel execution of this task. This attempt will fail if the task has already completed, has already been canceled, or could not be canceled for some other reason. If successful, and this task has not started when cancel is called, this task should never run. If the task has already started, then the mayInterruptIfRunning parameter determines whether the thread executing this task should be interrupted in an attempt to stop the task.

After this method returns, subsequent calls to **isDone()** (p. 1566) will always return true. Subsequent calls to **isCancelled()** (p. 1566) will always return true if this method returned true.

Parameters:

mayInterruptIfRunning True if the thread executing this task should be interrupted; otherwise, in-progress tasks are allowed to complete.

Returns:

false if the task could not be canceled, typically because it has already completed normally; true otherwise

Implements **decaf::util::concurrent::FutureType** (p. 1568).

6.272.3.2 template<typename T> FutureTask<T>* decaf::util::concurrent::FutureTask< T >::clone () [inline]

6.272.3.3 template<typename T> virtual void decaf::util::concurrent::FutureTask< T >::done () [inline, virtual]

Protected method invoked when this task transitions to state isDone (whether normally or via cancellation). The default implementation does nothing. Subclasses may override this method to invoke completion callbacks or perform bookkeeping. Note that you can query status inside the implementation of this method to determine whether this task has been canceled.

6.272.3.4 template<typename T> virtual T decaf::util::concurrent::FutureTask< T >::get (long long *timeout*, const TimeUnit & *unit*) [inline, virtual]

Waits if necessary for at most the given time for the computation to complete, and then retrieves its result, if available.

Parameters:

timeout The maximum time to wait for this **Future** (p. 1558) to finish.

unit The time unit of the timeout argument.

Returns:

the computed result

Exceptions:

CancellationException (p. ***886***) if the computation was canceled

ExecutionException (p. ***1460***) if the computation threw an exception

InterruptedException if the current thread was interrupted while waiting

TimeoutException (p. ***3052***) if the wait timed out before the future completed.

Implements **decaf::util::concurrent::Future< T >** (p. 1558).

6.272.3.5 template<typename T> virtual T decaf::util::concurrent::FutureTask< T >::get () [inline, virtual]

Waits if necessary for the computation to complete, and then retrieves its result.

Returns:

the computed result.

Exceptions:

CancellationException *(*p. ***886)*** if the computation was canceled

ExecutionException *(*p. ***1460)*** if the computation threw an exception

InterruptedException if the current thread was interrupted while waiting

Implements **decaf::util::concurrent::Future< T >** (p. 1559).

6.272.3.6 template<typename T> virtual bool decaf::util::concurrent::FutureTask< T >::isCancelled () const [inline, virtual]

Returns true if this task was canceled before it completed normally.

Returns:

true if this task was canceled before it completed

Implements **decaf::util::concurrent::FutureType** (p. 1569).

6.272.3.7 template<typename T> virtual bool decaf::util::concurrent::FutureTask< T >::isDone () const [inline, virtual]

Returns true if this task completed. Completion may be due to normal termination, an exception, or cancellation -- in all of these cases, this method will return true.

Returns:

true if this task completed

Implements **decaf::util::concurrent::FutureType** (p. 1569).

6.272.3.8 template<typename T> FutureTask<T>& decaf::util::concurrent::FutureTask< T >::operator= (const FutureTask< T > & *source*) [inline]

6.272.3.9 template<typename T> virtual void decaf::util::concurrent::FutureTask< T >::run () [inline, virtual]

Run method - called by the Thread class in the context of the thread.

Implements **decaf::lang::Runnable** (p. 2607).

6.272.3.10 template<typename T> virtual bool decaf::util::concurrent::FutureTask< T >::runAndReset () [inline, virtual]

Executes the computation without setting its result, and then resets this **Future** (p. 1558) to initial state, failing to do so if the computation encounters an exception or is canceled. This is designed for use with tasks that intrinsically execute more than once.

Returns:

true if successfully run and reset

6.272.3.11 template<typename T> virtual void decaf::util::concurrent::FutureTask< T >::set (const T & *result*) [inline, virtual]

Sets the result of this **Future** (p. 1558) to the given value unless this future has already been set or has been cancelled. This method is invoked internally by the `run` method upon successful completion of the computation.

Parameters:

v The value to return as the result of this **Future** (p. 1558).

6.272.3.12 template<typename T> virtual void decaf::util::concurrent::FutureTask< T >::setException (const decaf::lang::Exception & *error*) [inline, virtual]

Causes this future to report an **ExecutionException** (p. 1460) with the given Exception as its cause, unless this **Future** (p. 1558) has already been set or has been canceled. This method is invoked internally by the run method upon failure of the computation.

Parameters:

error The cause of failure that is thrown from run.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**FutureTask.h**

6.273 decaf::util::concurrent::FutureType Class Reference

`#include <src/main/decaf/util/concurrent/Future.h>`Inheritance diagram for decaf::util::concurrent::FutureType:

Public Member Functions

- virtual ~**FutureType** ()
- virtual bool **cancel** (bool mayInterruptIfRunning)=0

  Attempts to cancel execution of this task.

- virtual bool **isCancelled** () const =0

  Returns true if this task was canceled before it completed normally.

- virtual bool **isDone** () const =0

  Returns true if this task completed.

6.273.1 Constructor & Destructor Documentation

6.273.1.1 virtual decaf::util::concurrent::FutureType::~FutureType () [inline, virtual]

6.273.2 Member Function Documentation

6.273.2.1 virtual bool decaf::util::concurrent::FutureType::cancel (bool *mayInterruptIfRunning*) [pure virtual]

Attempts to cancel execution of this task. This attempt will fail if the task has already completed, has already been canceled, or could not be canceled for some other reason. If successful, and this task has not started when cancel is called, this task should never run. If the task has already started, then the mayInterruptIfRunning parameter determines whether the thread executing this task should be interrupted in an attempt to stop the task.

After this method returns, subsequent calls to **isDone()** (p. 1569) will always return true. Subsequent calls to **isCancelled()** (p. 1569) will always return true if this method returned true.

Parameters:

mayInterruptIfRunning True if the thread executing this task should be interrupted; otherwise, in-progress tasks are allowed to complete.

Returns:

false if the task could not be canceled, typically because it has already completed normally; true otherwise

Implemented in **decaf::util::concurrent::FutureTask< T >** (p. 1564).

6.273.2.2 virtual bool decaf::util::concurrent::FutureType::isCancelled () const [pure virtual]

Returns true if this task was canceled before it completed normally.

Returns:

true if this task was canceled before it completed

Implemented in **decaf::util::concurrent::FutureTask< T >** (p. 1566).

6.273.2.3 virtual bool decaf::util::concurrent::FutureType::isDone () const [pure virtual]

Returns true if this task completed. Completion may be due to normal termination, an exception, or cancellation -- in all of these cases, this method will return true.

Returns:

true if this task completed

Implemented in **decaf::util::concurrent::FutureTask< T >** (p. 1566).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Future.h**

6.274 decaf::security::GeneralSecurityException Class Reference

`#include <src/main/decaf/security/GeneralSecurityException.h>`Inheritance diagram for decaf::security::GeneralSecurityException:

Public Member Functions

- **GeneralSecurityException** ()
  Default Constructor.
- **GeneralSecurityException** (const **decaf::lang::Exception** &ex)
  Conversion Constructor from some other Exception.
- **GeneralSecurityException** (const **GeneralSecurityException** &ex)
  Copy Constructor.
- **GeneralSecurityException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **GeneralSecurityException** (const std::exception *cause)
  Constructor.
- **GeneralSecurityException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **GeneralSecurityException** * **clone** () const
  Clones this exception.
- virtual ~**GeneralSecurityException** () throw ()

6.274.1 Constructor & Destructor Documentation

6.274.1.1 decaf::security::GeneralSecurityException::GeneralSecurityException ()

Default Constructor.

6.274.1.2 decaf::security::GeneralSecurityException::GeneralSecurityException (const decaf::lang::Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.274.1.3 decaf::security::GeneralSecurityException::GeneralSecurityException (const GeneralSecurityException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.274.1.4 decaf::security::GeneralSecurityException::GeneralSecurityException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.274.1.5 decaf::security::GeneralSecurityException::GeneralSecurityException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.274.1.6 decaf::security::GeneralSecurityException::GeneralSecurityException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.274.1.7 virtual decaf::security::GeneralSecurityException::~GeneralSecurityException () throw () [virtual]

6.274.2 Member Function Documentation

6.274.2.1 virtual GeneralSecurityException* decaf::security::GeneralSecurityException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::lang::Exception** (p. 1447).

Reimplemented in **decaf::security::cert::CertificateEncodingException** (p. 895), **decaf::security::cert::CertificateException** (p. 898), **decaf::security::cert::CertificateExpiredException** (p. 901), **decaf::security::cert::CertificateNotYetValidException** (p. 904), **decaf::security::cert::CertificateParsingException** (p. 907), **decaf::security::DigestException** (p. 1388), **decaf::security::InvalidKeyException** (p. 1765), **decaf::security::KeyException** (p. 1832), **decaf::security::KeyManagementException** (p. 1835), **decaf::security::NoSuchAlgorithmException** (p. 2246), **decaf::security::NoSuchProviderException** (p. 2252), and **decaf::security::SignatureException** (p. 2743).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**GeneralSecurityException.h**

6.275 decaf::internal::util::GenericResource< T > Class Template Reference

A Generic **Resource** (p. 2584) wraps some type and will delete it when the **Resource** (p. 2584) itself is deleted.

`#include <src/main/decaf/internal/util/GenericResource.h>`Inheritance diagram for decaf::internal::util::GenericResource< T >:

Public Member Functions

- **GenericResource** (T *value)
- virtual ~**GenericResource** ()
- T * **getManaged** () const
- void **setManaged** (T *value)

6.275.1 Detailed Description

template<typename T> class decaf::internal::util::GenericResource< T >

A Generic **Resource** (p. 2584) wraps some type and will delete it when the **Resource** (p. 2584) itself is deleted.

Since:

1.0

6.275.2 Constructor & Destructor Documentation

6.275.2.1 template<typename T> decaf::internal::util::GenericResource< T >::GenericResource (T * *value*) [inline, explicit]

6.275.2.2 template<typename T> virtual decaf::internal::util::GenericResource< T >::~GenericResource () [inline, virtual]

6.275.3 Member Function Documentation

6.275.3.1 template<typename T> T* decaf::internal::util::GenericResource< T >::getManaged () const [inline]

6.275.3.2 template<typename T> void decaf::internal::util::GenericResource< T >::setManaged (T * *value*) [inline]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/**GenericResource.h**

6.276 gz_header_s Struct Reference

`#include <src/main/decaf/internal/util/zip/zlib.h>`

Data Fields

- int **text**
- **uLong time**
- int **xflags**
- int **os**
- **Bytef * extra**
- **uInt extra_len**
- **uInt extra_max**
- **Bytef * name**
- **uInt name_max**
- **Bytef * comment**
- **uInt comm_max**
- int **hcrc**
- int **done**

6.276.1 Field Documentation

6.276.1.1 uInt gz_header_s::comm_max

6.276.1.2 Bytef* gz_header_s::comment

6.276.1.3 int gz_header_s::done

6.276.1.4 Bytef* gz_header_s::extra

6.276.1.5 uInt gz_header_s::extra_len

6.276.1.6 uInt gz_header_s::extra_max

6.276.1.7 int gz_header_s::hcrc

6.276.1.8 Bytef* gz_header_s::name

6.276.1.9 uInt gz_header_s::name_max

6.276.1.10 int gz_header_s::os

6.276.1.11 int gz_header_s::text

6.276.1.12 uLong gz_header_s::time

6.276.1.13 int gz_header_s::xflags

The documentation for this struct was generated from the following file:

- src/main/decaf/internal/util/zip/**zlib.h**

6.277 gz_state Struct Reference

`#include <src/main/decaf/internal/util/zip/gzguts.h>`

Data Fields

- int **mode**
- int **fd**
- char * **path**
- z_off64_t **pos**
- unsigned **size**
- unsigned **want**
- unsigned char * **in**
- unsigned char * **out**
- unsigned char * **next**
- unsigned **have**
- int **eof**
- z_off64_t **start**
- z_off64_t **raw**
- int **how**
- int **direct**
- int **level**
- int **strategy**
- z_off64_t **skip**
- int **seek**
- int **err**
- char * **msg**
- **z_stream strm**

6.277.1 Field Documentation

6.277.1.1 int gz_state::direct

6.277.1.2 int gz_state::eof

6.277.1.3 int gz_state::err

6.277.1.4 int gz_state::fd

6.277.1.5 unsigned gz_state::have

6.277.1.6 int gz_state::how

6.277.1.7 unsigned char* gz_state::in

6.277.1.8 int gz_state::level

6.277.1.9 int gz_state::mode

6.277.1.10 char* gz_state::msg

6.277.1.11 unsigned char* gz_state::next

6.277.1.12 unsigned char* gz_state::out

6.277.1.13 char* gz_state::path

6.277.1.14 z_off64_t gz_state::pos

6.277.1.15 z_off64_t gz_state::raw

6.277.1.16 int gz_state::seek

6.277.1.17 unsigned gz_state::size

6.277.1.18 z_off64_t gz_state::skip

6.277.1.19 z_off64_t gz_state::start

6.277.1.20 int gz_state::strategy

6.277.1.21 z_stream gz_state::strm

6.277.1.22 unsigned gz_state::want

The documentation for this struct was generated from the following file:

- src/main/decaf/internal/util/zip/**gzguts.h**

6.278 decaf::util::logging::Handler Class Reference

A **Handler** (p. 1577) object takes log messages from a **Logger** (p. 1922) and exports them.

`#include <src/main/decaf/util/logging/Handler.h>`Inheritance diagram for decaf::util::logging::Handler:

Public Member Functions

- **Handler** ()
- virtual ~**Handler** ()
- virtual void **flush** ()=0

  Flush the Handler's output, clears any buffers.

- virtual void **publish** (const **LogRecord** &record)=0

  *Publish the Log Record to this **Handler** (p. 1577).*

- virtual bool **isLoggable** (const **LogRecord** &record) const

  *Check if this **Handler** (p. 1577) would actually log a given **LogRecord** (p. 1947).*

- virtual void **setFilter** (**Filter** *filter)

  *Sets the **Filter** (p. 1507) that this **Handler** (p. 1577) uses to filter Log Records.*

- virtual **Filter** * **getFilter** ()

  *Gets the **Filter** (p. 1507) that this **Handler** (p. 1577) uses to filter Log Records.*

- virtual void **setLevel** (const **Level** &value)

  ***Set** (p. 2700) the log level specifying which message levels will be logged by this **Handler** (p. 1577).*

- virtual **Level** **getLevel** ()

  *Get the log level specifying which message levels will be logged by this **Handler** (p. 1577).*

- virtual void **setFormatter** (**Formatter** *formatter)

  *Sets the `Formatter` (p. 1556) used by this **Handler** (p. 1577).*

- virtual **Formatter** * **getFormatter** ()

  *Gets the `Formatter` (p. 1556) used by this **Handler** (p. 1577).*

- virtual void **setErrorManager** (**ErrorManager** *errorManager)

  *Sets the `Formatter` (p. 1556) used by this **Handler** (p. 1577).*

- virtual **ErrorManager** * **getErrorManager** ()

  *Gets the `ErrorManager` (p. 1442) used by this **Handler** (p. 1577).*

Protected Member Functions

- void **reportError** (const std::string &message, **decaf::lang::Exception** *ex, int **code**)

  *Protected convenience method to report an error to this Handler's **ErrorManager** (p. 1442).*

6.278.1 Detailed Description

A **Handler** (p. 1577) object takes log messages from a **Logger** (p. 1922) and exports them. It might for example, write them to a console or write them to a file, or send them to a network **logging** (p. 134) service, or forward them to an OS log, or whatever.

A **Handler** (p. 1577) can be disabled by doing a setLevel(**Level.OFF** (p. 1850)) and can be re-enabled by doing a setLevel with an appropriate level.

Handler (p. 1577) classes typically use **LogManager** (p. 1941) properties to set default values for the Handler's **Filter** (p. 1507), **Formatter** (p. 1556), and **Level** (p. 1846). See the specific documentation for each concrete **Handler** (p. 1577) class.

6.278.2 Constructor & Destructor Documentation

6.278.2.1 decaf::util::logging::Handler::Handler ()

6.278.2.2 virtual decaf::util::logging::Handler::~Handler () [virtual]

6.278.3 Member Function Documentation

6.278.3.1 virtual void decaf::util::logging::Handler::flush () [pure virtual]

Flush the Handler's output, clears any buffers.

Implemented in **decaf::util::logging::StreamHandler** (p. 2906).

6.278.3.2 virtual ErrorManager* decaf::util::logging::Handler::getErrorManager () [inline, virtual]

Gets the `ErrorManager` (p. 1442) used by this **Handler** (p. 1577).

Returns:

`ErrorManager` (p. 1442) derived pointer or NULL.

6.278.3.3 virtual Filter* decaf::util::logging::Handler::getFilter () [inline, virtual]

Gets the **Filter** (p. 1507) that this **Handler** (p. 1577) uses to filter Log Records.

Returns:

`Filter` (p. 1507) derived instance

6.278.3.4 virtual Formatter* decaf::util::logging::Handler::getFormatter () [inline, virtual]

Gets the `Formatter` (p. 1556) used by this **Handler** (p. 1577).

Returns:

`Filter` (p. 1507) derived instance

6.278.3.5 virtual Level decaf::util::logging::Handler::getLevel () [inline, virtual]

Get the log level specifying which message levels will be logged by this **Handler** (p. 1577).

Returns:

Level (p. 1846) enumeration value

6.278.3.6 virtual bool decaf::util::logging::Handler::isLoggable (const LogRecord & *record*) const [virtual]

Check if this **Handler** (p. 1577) would actually log a given **LogRecord** (p. 1947). This method checks if the **LogRecord** (p. 1947) has an appropriate **Level** (p. 1846) and whether it satisfies any **Filter** (p. 1507). It also may make other **Handler** (p. 1577) specific checks that might prevent a handler from **logging** (p. 134) the **LogRecord** (p. 1947).

Parameters:

record `LogRecord` (p. 1947) to check

Reimplemented in **decaf::util::logging::StreamHandler** (p. 2906).

6.278.3.7 virtual void decaf::util::logging::Handler::publish (const LogRecord & *record*) [pure virtual]

Publish the Log Record to this **Handler** (p. 1577).

Parameters:

record The Log Record to Publish

Implemented in **decaf::util::logging::ConsoleHandler** (p. 1148), and **decaf::util::logging::StreamHandler** (p. 2906).

6.278.3.8 void decaf::util::logging::Handler::reportError (const std::string & *message*, decaf::lang::Exception * *ex*, int *code*) [protected]

Protected convenience method to report an error to this Handler's **ErrorManager** (p. 1442).

Parameters:

message - a descriptive string (may be empty)

ex - an exception (may be NULL)

code (p. ***999***) - an error **code** (p. 999) defined in **ErrorManager** (p. 1442)

6.278.3.9 virtual void decaf::util::logging::Handler::setErrorManager (ErrorManager * *errorManager*) [virtual]

Sets the `Formatter (p. 1556)` used by this **Handler** (p. 1577). The ErrorManager's "error" method will be invoked if any errors occur while using this **Handler** (p. 1577).

Parameters:

errorManager `ErrorManager (p. 1442)` derived instance

6.278.3.10 virtual void decaf::util::logging::Handler::setFilter (Filter * *filter*) [inline, virtual]

Sets the **Filter** (p. 1507) that this **Handler** (p. 1577) uses to filter Log Records. For each call of publish the **Handler** (p. 1577) will call this **Filter** (p. 1507) (if it is non-null) to check if the **LogRecord** (p. 1947) should be published or discarded.

Parameters:

filter `Filter (p. 1507)` derived instance

6.278.3.11 virtual void decaf::util::logging::Handler::setFormatter (Formatter * *formatter*) [virtual]

Sets the `Formatter (p. 1556)` used by this **Handler** (p. 1577). Some Handlers may not use Formatters, in which case the **Formatter** (p. 1556) will be remembered, but not used.

Parameters:

formatter `Filter (p. 1507)` derived instance

6.278.3.12 virtual void decaf::util::logging::Handler::setLevel (const Level & *value*) [inline, virtual]

Set (p. 2700) the log level specifying which message levels will be logged by this **Handler** (p. 1577). The intention is to allow developers to turn on voluminous **logging** (p. 134), but to limit the messages that are sent to certain Handlers.

Parameters:

value **Level** (p. 1846) enumeration value

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**Handler.h**

6.279 decaf::util::HashCode< T > Struct Template Reference

Base **HashCode** (p. 1581) template, specializations are created from this to account for the various native types.

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< T >:

Public Member Functions

- int **operator()** (const T &arg) const

6.279.1 Detailed Description

template<typename T> struct decaf::util::HashCode< T >

Base **HashCode** (p. 1581) template, specializations are created from this to account for the various native types.

Since:

1.0

6.279.2 Member Function Documentation

6.279.2.1 template<typename T > int decaf::util::HashCode< T >::operator() (const T & *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.280 decaf::util::HashCode< bool > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< bool >:

Public Member Functions

- int **operator()** (bool arg) const

template<> struct decaf::util::HashCode< bool >

6.280.1 Member Function Documentation

6.280.1.1 int decaf::util::HashCode< bool >::operator() (bool *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.281 decaf::util::HashCode< char > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< char >:

Public Member Functions

- int **operator()** (char arg) const

template<> struct decaf::util::HashCode< char >

6.281.1 Member Function Documentation

6.281.1.1 int decaf::util::HashCode< char >::operator() (char *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.282 decaf::util::HashCode< const std::string > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< const std::string >:

Public Member Functions

- int **operator()** (const std::string &arg) const

template<> struct decaf::util::HashCode< const std::string >

6.282.1 Member Function Documentation

6.282.1.1 int decaf::util::HashCode< const std::string >::operator() (const std::string & *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.283 decaf::util::HashCode< const T * > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< const T * >:

Public Member Functions

- int **operator()** (const T *arg) const

template<typename T> struct decaf::util::HashCode< const T * >

6.283.1 Member Function Documentation

6.283.1.1 template<typename T > int decaf::util::HashCode< const T * >::operator() (const T * *arg*) const [inline]

References NULL.

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.284 decaf::util::HashCode< const T > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< const T >:

Public Member Functions

- int **operator()** (const T &arg) const

template<typename T> struct decaf::util::HashCode< const T >

6.284.1 Member Function Documentation

6.284.1.1 template<typename T > int decaf::util::HashCode< const T >::operator() (const T & *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.285 decaf::util::HashCode< decaf::lang::Pointer< T > > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< decaf::lang::Pointer< T > >:

Public Member Functions

- int **operator()** (**decaf::lang::Pointer**< T > arg) const

template<typename T> struct decaf::util::HashCode< decaf::lang::Pointer< T > >

6.285.1 Member Function Documentation

6.285.1.1 template<typename T > int decaf::util::HashCode< decaf::lang::Pointer< T > >::operator() (decaf::lang::Pointer< T > *arg*) const [inline]

References NULL.

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.286 decaf::util::HashCode< double > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< double >:

Public Member Functions

- int **operator()** (double arg) const

template<> struct decaf::util::HashCode< double >

6.286.1 Member Function Documentation

6.286.1.1 int decaf::util::HashCode< double >::operator() (double *arg*) const [inline]

References decaf::lang::Double::doubleToLongBits().

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.287 decaf::util::HashCode< float > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< float >:

Public Member Functions

- int **operator()** (float arg) const

template<> struct decaf::util::HashCode< float >

6.287.1 Member Function Documentation

6.287.1.1 int decaf::util::HashCode< float >::operator() (float *arg*) const [inline]

References decaf::lang::Float::floatToIntBits().

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.288 decaf::util::HashCode< int > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< int >:

Public Member Functions

- int **operator()** (int arg) const

template<> struct decaf::util::HashCode< int >

6.288.1 Member Function Documentation

6.288.1.1 int decaf::util::HashCode< int >::operator() (int *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.289 decaf::util::HashCode< long long > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< long long >:

Public Member Functions

- int **operator()** (long long arg) const

template<> struct decaf::util::HashCode< long long >

6.289.1 Member Function Documentation

6.289.1.1 int decaf::util::HashCode< long long >::operator() (long long *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.290 decaf::util::HashCode< short > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< short >:

Public Member Functions

- int **operator()** (short arg) const

template<> struct decaf::util::HashCode< short >

6.290.1 Member Function Documentation

6.290.1.1 int decaf::util::HashCode< short >::operator() (short *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.291 decaf::util::HashCode< std::string > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< std::string >:

Public Member Functions

- int **operator()** (const std::string &arg) const

template<> struct decaf::util::HashCode< std::string >

6.291.1 Member Function Documentation

6.291.1.1 int decaf::util::HashCode< std::string >::operator() (const std::string & *arg*) const `[inline]`

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.292 decaf::util::HashCode< T * > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< T * >:

Public Member Functions

- int **operator()** (const T *arg) const

template<typename T> struct decaf::util::HashCode< T * >

6.292.1 Member Function Documentation

6.292.1.1 template<typename T > int decaf::util::HashCode< T * >::operator() (const T * *arg*) const [inline]

References NULL.

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.293 decaf::util::HashCode< unsigned int > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< unsigned int >:

Public Member Functions

- int **operator()** (unsigned int arg) const

template<> struct decaf::util::HashCode< unsigned int >

6.293.1 Member Function Documentation

6.293.1.1 int decaf::util::HashCode< unsigned int >::operator() (unsigned int *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.294 decaf::util::HashCode< unsigned long long > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< unsigned long long >:

Public Member Functions

- int **operator()** (unsigned long long arg) const

template<> struct decaf::util::HashCode< unsigned long long >

6.294.1 Member Function Documentation

6.294.1.1 int decaf::util::HashCode< unsigned long long >::operator() (unsigned long long *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.295 decaf::util::HashCode< unsigned short > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< unsigned short >:

Public Member Functions

- int **operator()** (unsigned short arg) const

template<> struct decaf::util::HashCode< unsigned short >

6.295.1 Member Function Documentation

6.295.1.1 int decaf::util::HashCode< unsigned short >::operator() (unsigned short *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.296 decaf::util::HashCode< wchar_t > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`Inheritance diagram for decaf::util::HashCode< wchar_t >:

Public Member Functions

- int **operator()** (wchar_t arg) const

template<> struct decaf::util::HashCode< wchar_t >

6.296.1 Member Function Documentation

6.296.1.1 int decaf::util::HashCode< wchar_t >::operator() (wchar_t *arg*) const [inline]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.297 decaf::util::HashCodeUnaryBase< T > Struct Template Reference

`#include <src/main/decaf/util/HashCode.h>`

Public Types

- typedef T **argument_type**
- typedef int **result_type**

Public Member Functions

- virtual ~**HashCodeUnaryBase** ()

template<typename T> struct decaf::util::HashCodeUnaryBase< T >

6.297.1 Member Typedef Documentation

6.297.1.1 template<typename T> typedef T decaf::util::HashCodeUnaryBase< T >::argument_type

6.297.1.2 template<typename T> typedef int decaf::util::HashCodeUnaryBase< T >::result_type

6.297.2 Constructor & Destructor Documentation

6.297.2.1 template<typename T> virtual decaf::util::HashCodeUnaryBase< T >::~HashCodeUnaryBase () [inline, virtual]

The documentation for this struct was generated from the following file:

- src/main/decaf/util/**HashCode.h**

6.298 decaf::util::HashMap< K, V, HASHCODE > Class Template Reference

Hash table based implementation of the **Map** (p. 1995) interface.

`#include <src/main/decaf/util/HashMap.h>`Inheritance diagram for decaf::util::HashMap< K, V, HASHCODE >:

Data Structures

- class **AbstractMapIterator**
- class **ConstAbstractMapIterator**
- class **ConstEntryIterator**
- class **ConstHashMapEntrySet**
- class **ConstHashMapKeySet**
- class **ConstHashMapValueCollection**
- class **ConstKeyIterator**
- class **ConstValueIterator**
- class **EntryIterator**
- class **HashMapEntry**
- class **HashMapEntrySet**
- class **HashMapKeySet**
- class **HashMapValueCollection**
- class **KeyIterator**
- class **ValueIterator**

Public Member Functions

- **HashMap** ()

  *Creates a new empty **HashMap** (p. 1600) with default configuration settings.*

- **HashMap** (int capacity)

  *Constructs a new **HashMap** (p. 1600) instance with the specified capacity.*

- **HashMap** (int capacity, float **loadFactor**)

  *Constructs a new **HashMap** (p. 1600) instance with the specified capacity.*

- **HashMap** (const **HashMap**< K, V > &map)

  *Creates a new **HashMap** (p. 1600) with default configuration settings and fills it with the contents of the given source **Map** (p. 1995) instance.*

- **HashMap** (const **Map**< K, V > &map)

  *Creates a new **HashMap** (p. 1600) with default configuration settings and fills it with the contents of the given source **Map** (p. 1995) instance.*

- virtual ~**HashMap** ()
- bool **operator**== (const **Map**< K, V > &other) const
- bool **operator!**= (const **Map**< K, V > &other) const

- virtual void **clear** ()

  Removes all of the mappings from this map (optional operation).

- virtual bool **isEmpty** () const
- virtual int **size** () const
- virtual bool **containsKey** (const K &key) const

  Returns true if this map contains a mapping for the specified key.

- virtual bool **containsValue** (const V &value) const

  Returns true if this map maps one or more keys to the specified value.

- virtual V & **get** (const K &key)

  *Gets the value mapped to the specified key in the **Map** (p. 1995).*

- virtual const V & **get** (const K &key) const

  *Gets the value mapped to the specified key in the **Map** (p. 1995).*

- virtual bool **put** (const K &key, const V &value)

  Associates the specified value with the specified key in this map (optional operation).

- virtual bool **put** (const K &key, const V &value, V &oldValue)

  Associates the specified value with the specified key in this map (optional operation).

- virtual void **putAll** (const **Map**< K, V > &map)
- virtual V **remove** (const K &key)

  Removes the value (key/value pair) for the specified key from the map, returns a copy of the value that was mapped to the key.

- virtual **Set**< **MapEntry**< K, V > > & **entrySet** ()

  *Returns a **Set** (p. 2700) view of the mappings contained in this map.*

- virtual const **Set**< **MapEntry**< K, V > > & **entrySet** () const
- virtual **Set**< K > & **keySet** ()

  *Returns a **Set** (p. 2700) view of the keys contained in this map.*

- virtual const **Set**< K > & **keySet** () const
- virtual **Collection**< V > & **values** ()

  *Returns a **Collection** (p. 1000) view of the values contained in this map.*

- virtual const **Collection**< V > & **values** () const
- virtual bool **equals** (const **Map**< K, V > &source) const
- virtual void **copy** (const **Map**< K, V > &source)
- virtual std::string **toString** () const

Protected Member Functions

- virtual **HashMapEntry** * **getEntry** (const K &key) const
- virtual bool **putImpl** (const K &key, const V &value)
- virtual bool **putImpl** (const K &key, const V &value, V &oldValue)
- virtual **HashMapEntry** * **createEntry** (const K &key, int index, const V &value)

- virtual **HashMapEntry** * **createHashedEntry** (const K &key, int index, int hash)
- void **putAllImpl** (const **Map**< K, V > &map)
- **HashMapEntry** * **findKeyEntry** (const K &key, int index, int keyHash) const
- void **rehash** (int capacity)
- void **rehash** ()
- void **removeEntry** (**HashMapEntry** *entry)
- **HashMapEntry** * **removeEntry** (const K &key)

Protected Attributes

- HASHCODE **hashFunc**

  The Hash Code generator for this map's keys.

- int **elementCount**
- **decaf::lang::ArrayPointer**< **HashMapEntry** * > **elementData**
- int **modCount**
- float **loadFactor**
- int **threshold**
- **decaf::lang::Pointer**< **HashMapEntrySet** > **cachedEntrySet**
- **decaf::lang::Pointer**< **HashMapKeySet** > **cachedKeySet**
- **decaf::lang::Pointer**< **HashMapValueCollection** > **cachedValueCollection**
- **decaf::lang::Pointer**< **ConstHashMapEntrySet** > **cachedConstEntrySet**
- **decaf::lang::Pointer**< **ConstHashMapKeySet** > **cachedConstKeySet**
- **decaf::lang::Pointer**< **ConstHashMapValueCollection** > **cachedConstValueCollection**

6.298.1 Detailed Description

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::HashMap< K, V, HASHCODE >

Hash table based implementation of the **Map** (p. 1995) interface. This implementation provides all of the optional map operations, and permits null values and the null key. This class makes no guarantees as to the order of the map; in particular, it does not guarantee that the order will remain constant over time.

This implementation provides constant-time performance for the basic operations (get and put), assuming the hash function disperses the elements properly among the buckets. Iteration over collection views requires time proportional to the "capacity" of the **HashMap** (p. 1600) instance (the number of buckets) plus its size (the number of key-value mappings). Thus, it's very important not to set the initial capacity too high (or the load factor too low) if iteration performance is important.

An instance of **HashMap** (p. 1600) has two parameters that affect its performance: initial capacity and load factor. The capacity is the number of buckets in the hash table, and the initial capacity is simply the capacity at the time the hash table is created. The load factor is a measure of how full the hash table is allowed to get before its capacity is automatically increased. When the number of entries in the hash table exceeds the product of the load factor and the current capacity, the hash table is rehashed (that is, **internal** (p. 96) data structures are rebuilt) so that the hash table has approximately twice the number of buckets.

As a general rule, the default load factor (.75) offers a good tradeoff between time and space costs. Higher values decrease the space overhead but increase the lookup cost (reflected in most

of the operations of the **HashMap** (p. 1600) class, including get and put). The expected number of entries in the map and its load factor should be taken into account when setting its initial capacity, so as to minimize the number of rehash operations. If the initial capacity is greater than the maximum number of entries divided by the load factor, no rehash operations will ever occur.

If many mappings are to be stored in a **HashMap** (p. 1600) instance, creating it with a sufficiently large capacity will allow the mappings to be stored more efficiently than letting it perform automatic rehashing as needed to grow the table.

Note that this implementation is not synchronized. If multiple threads access a hash map concurrently, and at least one of the threads modifies the map structurally, it must be synchronized externally. (A structural modification is any operation that adds or deletes one or more mappings; merely changing the value associated with a key that an instance already contains is not a structural modification.) This is typically accomplished by synchronizing on some object that naturally encapsulates the map. If no such object exists, the map should be "wrapped" using the Collections::synchronizedMap method. This is best done at creation time, to prevent accidental unsynchronized access to the map:

Map<K, V>* map = Collections::synchronizedMap(new **HashMap<K, V>()** (p. 1603));

The iterators returned by all of this class's "collection view methods" are fail-fast: if the map is structurally modified at any time after the iterator is created, in any way except through the iterator's own remove method, the iterator will throw a **ConcurrentModificationException** (p. 1050). Thus, in the face of **concurrent** (p. 129) modification, the iterator fails quickly and cleanly, rather than risking arbitrary, non-deterministic behavior at an undetermined time in the future.

Note that the fail-fast behavior of an iterator cannot be guaranteed as it is, generally speaking, impossible to make any hard guarantees in the presence of unsynchronized **concurrent** (p. 129) modification. Fail-fast iterators throw **ConcurrentModificationException** (p. 1050) on a best-effort basis. Therefore, it would be wrong to write a program that depended on this exception for its correctness: the fail-fast behavior of iterators should be used only to detect bugs.

Since:

1.0

6.298.2 Constructor & Destructor Documentation

6.298.2.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMap () [inline]

Creates a new empty **HashMap** (p. 1600) with default configuration settings.

6.298.2.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMap (int *capacity*) [inline]

Constructs a new **HashMap** (p. 1600) instance with the specified capacity.

Parameters:

capacity The initial capacity of this hash map.

Exceptions:

IllegalArgumentException when the capacity is less than zero.

6.298.2.3 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMap (int *capacity*, float *loadFactor*) [inline]

Constructs a new **HashMap** (p. 1600) instance with the specified capacity.

Parameters:

capacity The initial capacity of this hash map.

loadFactor The load factor to use for this hash map.

Exceptions:

IllegalArgumentException when the capacity is less than zero.

6.298.2.4 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMap (const HashMap< K, V > & *map*) [inline]

Creates a new **HashMap** (p. 1600) with default configuration settings and fills it with the contents of the given source **Map** (p. 1995) instance.

Parameters:

map The **Map** (p. 1995) instance whose elements are copied into this **HashMap** (p. 1600) instance.

6.298.2.5 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMap (const Map< K, V > & *map*) [inline]

Creates a new **HashMap** (p. 1600) with default configuration settings and fills it with the contents of the given source **Map** (p. 1995) instance.

Parameters:

map The **Map** (p. 1995) instance whose elements are copied into this **HashMap** (p. 1600) instance.

6.298.2.6 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual decaf::util::HashMap< K, V, HASHCODE >::~HashMap () [inline, virtual]

6.298.3 Member Function Documentation

6.298.3.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual void decaf::util::HashMap< K, V, HASHCODE >::clear () [inline, virtual]

Removes all of the mappings from this map (optional operation). The map will be empty after this call returns.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this map.

Implements **decaf::util::Map< K, V >** (p. 1997).

Referenced by decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::clear(), decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::clear(), decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::clear(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::copy().

6.298.3.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::containsKey (const K & *key*) const [inline, virtual]

Returns true if this map contains a mapping for the specified key. More formally, returns true if and only if this map contains a mapping for a key k such that (key == k). (There can be at most one such mapping.)

Parameters:

key The key to look up.

Returns:

true if this map contains the key mapping, otherwise false.

Implements **decaf::util::Map< K, V >** (p. 1998).

Referenced by decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::contains(), and decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::contains().

6.298.3.3 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::containsValue (const V & *value*) const [inline, virtual]

Returns true if this map maps one or more keys to the specified value. More formally, returns true if and only if this map contains at least one mapping to a value v such that (value==v). This operation will probably require time linear in the map size for most implementations of the **Map** (p. 1995) interface.

Parameters:

value The Value to look up in this **Map** (p. 1995).

Returns:

true if this map contains at least one mapping for the value, otherwise false.

Implements **decaf::util::Map< K, V >** (p. 1998).

Referenced by decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection::contains(), and decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::contains().

6.298.3.4 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual void decaf::util::HashMap< K, V, HASHCODE >::copy (const Map< K, V > & *source*) [inline, virtual]

6.298.3.5 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual HashMapEntry* decaf::util::HashMap< K, V, HASHCODE >::createEntry (const K & *key*, int *index*, const V & *value*) [inline, protected, virtual]

6.298.3.6 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual HashMapEntry* decaf::util::HashMap< K, V, HASHCODE >::createHashedEntry (const K & *key*, int *index*, int *hash*) [inline, protected, virtual]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl().

6.298.3.7 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual const Set< MapEntry<K,V> >& decaf::util::HashMap< K, V, HASHCODE >::entrySet () const [inline, virtual]

Implements **decaf::util::Map< K, V >** (p. 1999).

6.298.3.8 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Set< MapEntry<K,V> >& decaf::util::HashMap< K, V, HASHCODE >::entrySet () [inline, virtual]

Returns a **Set** (p. 2700) view of the mappings contained in this map. The set is backed by the map, so changes to the map are reflected in the set, and vice-versa. If the map is modified while an iteration over the set is in progress (except through the iterator's own remove operation, or through the setValue operation on a map entry returned by the iterator) the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Set.remove** (p. 1007), removeAll, retainAll and clear operations. It does not support the add or addAll operations.

Returns:

a reference to a **Set** (p. 2700)<MapEntry<K,V>> that is backed by this **Map** (p. 1995).

Implements **decaf::util::Map< K, V >** (p. 1999).

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::equals().

6.298.3.9 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::equals (const Map< K, V > & *source*) const [inline, virtual]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::operator!=(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::operator==().

6.298.3.10 template<typename K, typename V, typename HASHCODE = HashCode<K>> HashMapEntry* decaf::util::HashMap< K, V, HASHCODE >::findKeyEntry (const K & *key*, int *index*, int *keyHash*) const [inline, protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::getEntry(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl().

6.298.3.11 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual const V& decaf::util::HashMap< K, V, HASHCODE >::get (const K & *key*) const [inline, virtual]

Gets the value mapped to the specified key in the **Map** (p. 1995). If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.

Parameters:

key The search key whose value should be returned if present.

Returns:

A const reference to the value for the given key if present in the **Map** (p. 1995).

Exceptions:

NoSuchElementException *(p. 2247)* if the key requests doesn't exist in the **Map** (p. 1995).

Implements **decaf::util::Map< K, V >** (p. 2001).

6.298.3.12 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual V& decaf::util::HashMap< K, V, HASHCODE >::get (const K & *key*) [inline, virtual]

Gets the value mapped to the specified key in the **Map** (p. 1995). If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.

Parameters:

key The search key whose value should be returned if present.

Returns:

A reference to the value for the given key if present in the **Map** (p. 1995).

Exceptions:

NoSuchElementException *(p. 2247)* if the key requests doesn't exist in the **Map** (p. 1995).

Implements **decaf::util::Map< K, V >** (p. 2001).

6.298.3.13 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual HashMapEntry* decaf::util::HashMap< K, V, HASHCODE >::getEntry (const K & *key*) const [inline, protected, virtual]

Referenced by decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::contains(), decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::contains(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::containsKey(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::get(), and decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::remove().

6.298.3.14 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::isEmpty () const [inline, virtual]

Returns:

if the **Map** (p. 1995) contains any element or not, TRUE or FALSE

Implements **decaf::util::Map< K, V >** (p. 2002).

6.298.3.15 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual const Set<K>& decaf::util::HashMap< K, V, HASHCODE >::keySet () const [inline, virtual]

Implements **decaf::util::Map< K, V >** (p. 2002).

6.298.3.16 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Set<K>& decaf::util::HashMap< K, V, HASHCODE >::keySet () [inline, virtual]

Returns a **Set** (p. 2700) view of the keys contained in this map. The set is backed by the map, so changes to the map are reflected in the set, and vice-versa. If the map is modified while an iteration over the set is in progress (except through the iterator's own remove operation), the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Set.remove** (p. 1007), removeAll, retainAll, and clear operations. It does not support the add or addAll operations.

Returns:

a set view of the keys contained in this map,

Implements **decaf::util::Map< K, V >** (p. 2003).

6.298.3.17 template<typename K, typename V, typename HASHCODE = HashCode<K>> bool decaf::util::HashMap< K, V, HASHCODE >::operator!= (const Map< K, V > & *other*) const [inline]

6.298.3.18 template<typename K, typename V, typename HASHCODE = HashCode<K>> bool decaf::util::HashMap< K, V, HASHCODE >::operator== (const Map< K, V > & *other*) const [inline]

6.298.3.19 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::put (const K & *key*, const V & *value*, V & *oldValue*) [inline, virtual]

Associates the specified value with the specified key in this map (optional operation). If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

This method accepts a reference to a value which will be assigned the previous value for the given key (if any). If there was no previous mapping for the given key the out value is not written to. A return of true indicates that a value was replaced by this put operation.

Parameters:

key The target key.

value The value to be set.

oldValue (out) The value previously held in the mapping for this key. .

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException if this map is unmodifiable.

IllegalArgumentException if some property of the specified key or value prevents it from being stored in this map

Implements **decaf::util::Map< K, V >** (p. 2004).

6.298.3.20 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::put (const K & *key*, const V & *value*) [inline, virtual]

Associates the specified value with the specified key in this map (optional operation). If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

Parameters:

key The target key.

value The value to be set.

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException if this map is unmodifiable.

IllegalArgumentException if some property of the specified key or value prevents it from being stored in this map

Implements **decaf::util::Map< K, V >** (p. 2004).

6.298.3.21 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual void decaf::util::HashMap< K, V, HASHCODE >::putAll (const Map< K, V > & *map*) [inline, virtual]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::copy(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::HashMap().

6.298.3.22 template<typename K, typename V, typename HASHCODE = HashCode<K>> void decaf::util::HashMap< K, V, HASHCODE >::putAllImpl (const Map< K, V > & *map*) [inline, protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAll().

6.298.3.23 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::putImpl (const K & *key*, const V & *value*, V & *oldValue*) [inline, protected, virtual]

6.298.3.24 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::putImpl (const K & *key*, const V & *value*) [inline, protected, virtual]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::put(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAllImpl(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl().

6.298.3.25 template<typename K, typename V, typename HASHCODE = HashCode<K>> void decaf::util::HashMap< K, V, HASHCODE >::rehash () [inline, protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAllImpl(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::rehash().

6.298.3.26 template<typename K, typename V, typename HASHCODE = HashCode<K>> void decaf::util::HashMap< K, V, HASHCODE >::rehash (int *capacity*) [inline, protected]

6.298.3.27 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual V decaf::util::HashMap< K, V, HASHCODE >::remove (const K & *key*) [inline, virtual]

Removes the value (key/value pair) for the specified key from the map, returns a copy of the value that was mapped to the key. Care must be taken when using this operation as it will throw an exception if there is no mapping for the given key.

Parameters:

key The search key whose mapping is to be removed.

Returns:

a copy of the element that was previously mapped to the given key.

Exceptions:

NoSuchElementException *(p. 2247)* if this key is not in the **Map** (p. 1995).

UnsupportedOperationException if this map is unmodifiable.

Implements **decaf::util::Map< K, V >** (p. 2005).

6.298.3.28 template<typename K, typename V, typename HASHCODE = HashCode<K>> HashMapEntry* decaf::util::HashMap< K, V, HASHCODE >::removeEntry (const K & *key*) [inline, protected]

6.298.3.29 template<typename K, typename V, typename HASHCODE = HashCode<K>> void decaf::util::HashMap< K, V, HASHCODE >::removeEntry (HashMapEntry * *entry*) [inline, protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::remove(), decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::remove(), and decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::remove().

6.298.3.30 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual int decaf::util::HashMap< K, V, HASHCODE >::size () const [inline, virtual]

Returns:

The number of elements (key/value pairs) in this map.

Implements **decaf::util::Map< K, V >** (p. 2006).

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::equals(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::HashMap(), decaf::util::LRUCache< K, V, HASHCODE >::removeEldestEntry(), decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection::size(), decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::size(), decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet::size(), and decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::size().

6.298.3.31 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual std::string decaf::util::HashMap< K, V, HASHCODE >::toString () const [inline, virtual]

6.298.3.32 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual const Collection<V>& decaf::util::HashMap< K, V, HASHCODE >::values () const [inline, virtual]

Implements **decaf::util::Map< K, V >** (p. 2007).

6.298.3.33 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Collection<V>& decaf::util::HashMap< K, V, HASHCODE >::values () [inline, virtual]

Returns a **Collection** (p. 1000) view of the values contained in this map. The collection is backed by the map, so changes to the map are reflected in the collection, and vice-versa. If the map is modified while an iteration over the collection is in progress (except through the iterator's own remove operation), the results of the iteration are undefined. The collection supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Collection.remove** (p. 1007), removeAll, retainAll and clear operations. It does not support the add or addAll operations. For the const version of this method the **Collection** (p. 1000) can only be used as a view into the **Map** (p. 1995).

Returns:

a collection view of the values contained in this map.

Implements **decaf::util::Map< K, V >** (p. 2007).

6.298.4 Field Documentation

6.298.4.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::lang::Pointer<ConstHashMapEntrySet> decaf::util::HashMap< K, V, HASHCODE >::cachedConstEntrySet [mutable, protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::entrySet().

6.298.4.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::lang::Pointer<ConstHashMapKeySet> decaf::util::HashMap< K, V, HASHCODE >::cachedConstKeySet [mutable, protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::keySet().

6.298.4.3 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::lang::Pointer<ConstHashMapValueCollection> decaf::util::HashMap< K, V, HASHCODE >::cachedConstValueCollection [mutable, protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::values().

6.298.4.4 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::lang::Pointer<HashMapEntrySet> decaf::util::HashMap< K, V, HASHCODE >::cachedEntrySet [protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::entrySet().

6.298.4.5 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::lang::Pointer<HashMapKeySet> decaf::util::HashMap< K, V, HASHCODE >::cachedKeySet [protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::keySet().

6.298.4.6 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::lang::Pointer<HashMapValueCollection> decaf::util::HashMap< K, V, HASHCODE >::cachedValueCollection [protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::values().

6.298.4.7 template<typename K, typename V, typename HASHCODE = HashCode<K>> int decaf::util::HashMap< K, V, HASHCODE >::elementCount [protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::clear(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::HashMap(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::isEmpty(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAllImpl(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::removeEntry(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::size(), decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::size(), and decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::size().

6.298.4.8 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::lang::ArrayPointer<HashMapEntry*> decaf::util::HashMap< K, V, HASHCODE >::elementData [protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::clear(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::containsValue(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::copy(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::createEntry(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::createHashedEntry(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::findKeyEntry(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::getEntry(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::HashMap(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::rehash(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::removeEntry(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::~HashMap().

6.298.4.9 template<typename K, typename V, typename HASHCODE = HashCode<K>> HASHCODE decaf::util::HashMap< K, V, HASHCODE >::hashFunc [protected]

The Hash Code generator for this map's keys.

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::getEntry(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::removeEntry().

6.298.4.10 template<typename K, typename V, typename HASHCODE = HashCode<K>> float decaf::util::HashMap< K, V, HASHCODE >::loadFactor [protected]

6.298.4.11 template<typename K, typename V, typename HASHCODE = HashCode<K>> int decaf::util::HashMap< K, V, HASHCODE >::modCount [protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::clear(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::removeEntry().

6.298.4.12 template<typename K, typename V, typename HASHCODE = HashCode<K>> int decaf::util::HashMap< K, V, HASHCODE >::threshold [protected]

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAllImpl(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**HashMap.h**

6.299 decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry Class Reference

`#include <src/main/decaf/util/HashMap.h>`Inheritance diagram for decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry:

Public Member Functions

- **HashMapEntry** (const K &key, const V &value, int hash)
- **HashMapEntry** (const K &key, const V &value)

Data Fields

- int **origKeyHash**
- **HashMapEntry** * **next**

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry

6.299.1 Constructor & Destructor Documentation

6.299.1.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry::HashMapEntry (const K & *key*, const V & *value*, int *hash*) [inline]

References decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry::origKeyHash, decaf::util::MapEntry< K, V >::setKey(), and decaf::util::MapEntry< K, V >::setValue().

6.299.1.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry::HashMapEntry (const K & *key*, const V & *value*) [inline]

References decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry::origKeyHash.

6.299.2 Field Documentation

6.299.2.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> HashMapEntry* decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry::next

6.299.2.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> int decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry::origKeyHash

Referenced by decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry::HashMapEntry().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**HashMap.h**

6.300 decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet Class Reference

`#include <src/main/decaf/util/HashMap.h>`Inheritance diagram for decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet:

Public Member Functions

- **HashMapEntrySet** (**HashMap** *parent)
- virtual ~**HashMapEntrySet** ()
- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **remove** (const **MapEntry**< K, V > &entry)

  Removes a single instance of the specified element from the collection.
  More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

  Parameters:

  value *The reference to the element to remove from this Collection.*

  Returns:

  true if the collection was changed, false otherwise.

  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the Collection is a container of pointers and does not allow NULL values.*

  This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.
  Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

- virtual bool **contains** (const **MapEntry**< K, V > &entry)
- virtual **Iterator**< **MapEntry**< K, V > > * **iterator** ()
- virtual **Iterator**< **MapEntry**< K, V > > * **iterator** () const

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet

6.300.1 Constructor & Destructor Documentation

6.300.1.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::HashMapEntrySet (HashMap * *parent*) [inline]

6.300.1.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::~HashMapEntrySet () [inline, virtual]

6.300.2 Member Function Documentation

6.300.2.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual void decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 144).

References decaf::util::HashMap< K, V, HASHCODE >::clear().

6.300.2.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::contains (const MapEntry< K, V > & *entry*) [inline, virtual]

References decaf::util::HashMap< K, V, HASHCODE >::getEntry(), decaf::util::MapEntry< K, V >::getKey(), decaf::util::MapEntry< K, V >::getValue(), and NULL.

6.300.2.3 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator< MapEntry<K, V> >* decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< MapEntry< K, V > >** (p. 1786).

6.300.2.4 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator< MapEntry<K, V> >* decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< MapEntry< K, V > >** (p. 1787).

6.300.2.5 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::remove (const MapEntry< K, V > & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this Collection.

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the Collection is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object. This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Reimplemented from **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 149).

References decaf::util::HashMap< K, V, HASHCODE >::getEntry(), decaf::util::MapEntry< K, V >::getValue(), NULL, and decaf::util::HashMap< K, V, HASHCODE >::removeEntry().

6.300.2.6 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual int decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< MapEntry< K, V > >** (p. 1009).

References decaf::util::HashMap< K, V, HASHCODE >::elementCount.

The documentation for this class was generated from the following file:

- src/main/decaf/util/**HashMap.h**

6.301 decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet Class Reference

`#include <src/main/decaf/util/HashMap.h>`Inheritance diagram for decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet:

Public Member Functions

- **HashMapKeySet** (**HashMap** *parent)
- virtual ~**HashMapKeySet** ()
- virtual bool **contains** (const K &key) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

  Parameters:

  value *The value to check for presence in the collection.*

  Returns:

  true if there is at least one of the elements in the collection

  Exceptions:

  NullPointerException *if the Collection contains pointers and the Collection does not allow for NULL elements (optional check).*

  This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **remove** (const K &key)

  Removes a single instance of the specified element from the collection.
  More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

  Parameters:

  value *The reference to the element to remove from this Collection.*

  Returns:

  true if the collection was changed, false otherwise.

  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the Collection is a container of pointers and does not allow NULL values.*

  This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.
  Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

- virtual **Iterator**< K > * **iterator** ()
- virtual **Iterator**< K > * **iterator** () const

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet

6.301.1 Constructor & Destructor Documentation

6.301.1.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::HashMapKeySet (HashMap * *parent*) [inline]

6.301.1.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::~HashMapKeySet () [inline, virtual]

6.301.2 Member Function Documentation

6.301.2.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual void decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractCollection< K >** (p. 144).

References decaf::util::HashMap< K, V, HASHCODE >::clear().

6.301.2.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::contains (const K & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the Collection contains pointers and the Collection does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element. This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Reimplemented from **decaf::util::AbstractCollection< K >** (p. 145).

References decaf::util::HashMap< K, V, HASHCODE >::containsKey().

6.301.2.3 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator<K>* decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< K >** (p. 1786).

6.301.2.4 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator<K>* decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< K >** (p. 1787).

6.301.2.5 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::remove (const K & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this Collection.

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the Collection is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object. This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Reimplemented from **decaf::util::AbstractCollection< K >** (p. 149).

References NULL, and decaf::util::HashMap< K, V, HASHCODE >::removeEntry().

6.301.2.6 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual int decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< K >** (p. 1009).

References decaf::util::HashMap< K, V, HASHCODE >::size().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**HashMap.h**

6.302 decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection Class Reference

`#include <src/main/decaf/util/HashMap.h>`Inheritance diagram for decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection:

Public Member Functions

- **HashMapValueCollection** (**HashMap** *parent)
- virtual ~**HashMapValueCollection** ()
- virtual bool **contains** (const V &value) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

  Parameters:

  value *The value to check for presence in the collection.*

  Returns:

  true if there is at least one of the elements in the collection

  Exceptions:

  NullPointerException *if the Collection contains pointers and the Collection does not allow for NULL elements (optional check).*

  This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual **Iterator**< V > * **iterator** ()
- virtual **Iterator**< V > * **iterator** () const

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection

6.302.1 Constructor & Destructor Documentation

6.302.1.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::HashMapValueCollection (HashMap * *parent*) [inline]

6.302.1.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::~HashMapValueCollection () [inline, virtual]

6.302.2 Member Function Documentation

6.302.2.1 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual void decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractCollection< V >** (p. 144).

References decaf::util::HashMap< K, V, HASHCODE >::clear().

6.302.2.2 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual bool decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::contains (const V & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the Collection contains pointers and the Collection does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element. This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Reimplemented from **decaf::util::AbstractCollection< V >** (p. 145).

References decaf::util::HashMap< K, V, HASHCODE >::containsValue().

6.302.2.3 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator<V>* decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< V >** (p. 1786).

6.302.2.4 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual Iterator<V>* decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< V >** (p. 1787).

6.302.2.5 template<typename K, typename V, typename HASHCODE = HashCode<K>> virtual int decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< V >** (p. 1009).

References decaf::util::HashMap< K, V, HASHCODE >::size().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**HashMap.h**

6.303 decaf::util::HashSet< E, HASHCODE > Class Template Reference

This class implements the **Set** (p. 2700) interface, backed by a hash table (actually a **HashMap** (p. 1600) instance).

`#include <src/main/decaf/util/HashSet.h>`Inheritance diagram for decaf::util::HashSet< E, HASHCODE >:

Public Member Functions

- **HashSet** ()

  *Constructs a new, empty set; the backing **HashMap** (p. 1600) instance has default initial capacity (16) and load factor (0.75).*

- **HashSet** (int capacity)

  *Constructs a new, empty set; the backing **HashMap** (p. 1600) instance has the specified initial capacity and default load factor (0.75).*

Protected Attributes

- **HashMap**< E, **Set**< E > *, HASHCODE > * **backingMap**

6.303.1 Detailed Description

template<typename E, typename HASHCODE = HashCode<E>> class decaf::util::HashSet< E, HASHCODE >

This class implements the **Set** (p. 2700) interface, backed by a hash table (actually a **HashMap** (p. 1600) instance). It makes no guarantees as to the iteration order of the set; in particular, it does not guarantee that the order will remain constant over time.

This class offers constant time performance for the basic operations (add, remove, contains and size), assuming the hash function disperses the elements properly among the buckets. Iterating over this set requires time proportional to the sum of the **HashSet** (p. 1628) instance's size (the number of elements) plus the "capacity" of the backing **HashMap** (p. 1600) instance (the number of buckets). Thus, it's very important not to set the initial capacity too high (or the load factor too low) if iteration performance is important.

Note that this implementation is not synchronized. If multiple threads access a hash set concurrently, and at least one of the threads modifies the set, it must be synchronized externally. This is typically accomplished by synchronizing on some object that naturally encapsulates the set. If no such object exists, the set should be "wrapped" using the Collections::synchronizedSet method. This is best done at creation time, to prevent accidental unsynchronized access to the set:

Set<E>* s = Collections::synchronizedSet(new HashSet<E>(...));

The iterators returned by this class's iterator method are fail-fast: if the set is modified at any time after the iterator is created, in any way except through the iterator's own remove method, the **Iterator** (p. 1789) throws a **ConcurrentModificationException** (p. 1050). Thus, in the face

of **concurrent** (p. 129) modification, the iterator fails quickly and cleanly, rather than risking arbitrary, non-deterministic behavior at an undetermined time in the future.

Note that the fail-fast behavior of an iterator cannot be guaranteed as it is, generally speaking, impossible to make any hard guarantees in the presence of unsynchronized **concurrent** (p. 129) modification. Fail-fast iterators throw **ConcurrentModificationException** (p. 1050) on a best-effort basis. Therefore, it would be wrong to write a program that depended on this exception for its correctness: the fail-fast behavior of iterators should be used only to detect bugs.

Since:

1.0

6.303.2 Constructor & Destructor Documentation

6.303.2.1 template<typename E , typename HASHCODE = HashCode<E>> decaf::util::HashSet< E, HASHCODE >::HashSet () [inline]

Constructs a new, empty set; the backing **HashMap** (p. 1600) instance has default initial capacity (16) and load factor (0.75).

6.303.2.2 template<typename E , typename HASHCODE = HashCode<E>> decaf::util::HashSet< E, HASHCODE >::HashSet (int *capacity*) [inline]

Constructs a new, empty set; the backing **HashMap** (p. 1600) instance has the specified initial capacity and default load factor (0.75).

Parameters:

capacity The initial capacity of this **HashSet** (p. 1628).

6.303.3 Field Documentation

6.303.3.1 template<typename E , typename HASHCODE = HashCode<E>> HashMap<E, Set<E>*, HASHCODE>* decaf::util::HashSet< E, HASHCODE >::backingMap [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/util/**HashSet.h**

6.304 decaf::internal::util::HexStringParser Class Reference

`#include <src/main/decaf/internal/util/HexStringParser.h>`

Public Member Functions

- **HexStringParser** (int exponentWidth, int mantissaWidth)

  Create a new HexParser.

- virtual ~**HexStringParser** ()
- long long **parse** (const std::string &hexString)

  Parses a hex string using the specs given in the constructor and returns a long long with the bits of the parsed string, the caller can then convert those to a float or doulbe as needed.

Static Public Member Functions

- static double **parseDouble** (const std::string &hexString)
- static float **parseFloat** (const std::string &hexString)

6.304.1 Constructor & Destructor Documentation

6.304.1.1 decaf::internal::util::HexStringParser::HexStringParser (int *exponentWidth*, int *mantissaWidth*)

Create a new HexParser.

Parameters:

exponentWidth - Width of the exponent for the type to parse

mantissaWidth - Width of the mantissa for the type to parse

6.304.1.2 virtual decaf::internal::util::HexStringParser::~HexStringParser () `[inline, virtual]`

6.304.2 Member Function Documentation

6.304.2.1 long long decaf::internal::util::HexStringParser::parse (const std::string & *hexString*)

Parses a hex string using the specs given in the constructor and returns a long long with the bits of the parsed string, the caller can then convert those to a float or doulbe as needed.

Parameters:

hexString - string to parse

Returns:

the bits parsed from the string

6.304.2.2 static double decaf::internal::util::HexStringParser::parseDouble (const std::string & *hexString*) [static]

6.304.2.3 static float decaf::internal::util::HexStringParser::parseFloat (const std::string & *hexString*) [static]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/**HexStringParser.h**

6.305 activemq::wireformat::openwire::utils::HexTable Class Reference

The **HexTable** (p. 1632) class maps hexidecimal strings to the value of an index into the table, i.e.

`#include <src/main/activemq/wireformat/openwire/utils/HexTable.h>`

Public Member Functions

- **HexTable** ()
- virtual ~**HexTable** ()
- virtual const std::string & **operator[]** (std::size_t index)

  Index operator for this Table, will throw an exception if the index requested is out of bounds for this table.

- virtual const std::string & **operator[]** (std::size_t index) const
- virtual std::size_t **size** () const

  Returns the max size of this Table.

6.305.1 Detailed Description

The **HexTable** (p. 1632) class maps hexidecimal strings to the value of an index into the table, i.e. the class will return "FF" for the index 255 in the table.

6.305.2 Constructor & Destructor Documentation

6.305.2.1 activemq::wireformat::openwire::utils::HexTable::HexTable ()

6.305.2.2 virtual activemq::wireformat::openwire::utils::HexTable::~HexTable () [inline, virtual]

6.305.3 Member Function Documentation

6.305.3.1 virtual const std::string& activemq::wireformat::openwire::utils::HexTable::operator[] (std::size_t *index*) const [virtual]

6.305.3.2 virtual const std::string& activemq::wireformat::openwire::utils::HexTable::operator[] (std::size_t *index*) [virtual]

Index operator for this Table, will throw an exception if the index requested is out of bounds for this table.

Parameters:

index The index of the value in the table to fetch.

Returns:

string containing the hex value if the index

Exceptions:

IndexOutOfBoundsException if the index exceeds the table size.

6.305.3.3 virtual std::size_t activemq::wireformat::openwire::utils::HexTable::size () const [inline, virtual]

Returns the max size of this Table.

Returns:

an integer size value for the table.

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/utils/**HexTable.h**

6.306 decaf::net::HttpRetryException Class Reference

`#include <src/main/decaf/net/HttpRetryException.h>`Inheritance diagram for decaf::net::HttpRetryException:

Public Member Functions

- **HttpRetryException** ()

  Default Constructor.

- **HttpRetryException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **HttpRetryException** (const **HttpRetryException** &ex)

  Copy Constructor.

- **HttpRetryException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **HttpRetryException** (const std::exception *cause)

  Constructor.

- **HttpRetryException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **HttpRetryException** * **clone** () const

  Clones this exception.

- virtual ~**HttpRetryException** () throw ()

6.306.1 Constructor & Destructor Documentation

6.306.1.1 decaf::net::HttpRetryException::HttpRetryException ()

Default Constructor.

6.306.1.2 decaf::net::HttpRetryException::HttpRetryException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.306.1.3 decaf::net::HttpRetryException::HttpRetryException (const HttpRetryException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.306.1.4 decaf::net::HttpRetryException::HttpRetryException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.306.1.5 decaf::net::HttpRetryException::HttpRetryException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.306.1.6 decaf::net::HttpRetryException::HttpRetryException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.306.1.7 virtual decaf::net::HttpRetryException::~HttpRetryException () throw () [virtual]

6.306.2 Member Function Documentation

6.306.2.1 virtual HttpRetryException* decaf::net::HttpRetryException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::io::IOException** (p. 1775).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**HttpRetryException.h**

6.307 activemq::util::IdGenerator Class Reference

`#include <src/main/activemq/util/IdGenerator.h>`

Public Member Functions

- **IdGenerator** ()
- **IdGenerator** (const std::string &prefix)
- virtual ~**IdGenerator** ()
- std::string **generateId** () const

Static Public Member Functions

- static std::string **getHostname** ()

  Since the initialization of this object results in the retrieval of the machine's host name we can quickly return it here.

- static std::string **getSeedFromId** (const std::string &id)

  Gets the seed value from a Generated Id, the count portion is removed.

- static long long **getSequenceFromId** (const std::string &id)

  Gets the count value from a Generated Id, the seed portion is removed.

- static int **compare** (const std::string &id1, const std::string &id2)

  Compares two generated id values.

Friends

- class **activemq::library::ActiveMQCPP**

6.307.1 Constructor & Destructor Documentation

6.307.1.1 activemq::util::IdGenerator::IdGenerator ()

6.307.1.2 activemq::util::IdGenerator::IdGenerator (const std::string & *prefix*)

6.307.1.3 virtual activemq::util::IdGenerator::~IdGenerator () `[virtual]`

6.307.2 Member Function Documentation

6.307.2.1 static int activemq::util::IdGenerator::compare (const std::string & *id1*, const std::string & *id2*) `[static]`

Compares two generated id values.

Parameters:

id1 The first id to compare, or left hand side.

id2 The second id to compare, or right hand side.

Returns:

zero if ids are equal or positove if id1 > id2...

6.307.2.2 std::string activemq::util::IdGenerator::generateId () const

Returns:

a newly generated unique id.

6.307.2.3 static std::string activemq::util::IdGenerator::getHostname () [static]

Since the initialization of this object results in the retrieval of the machine's host name we can quickly return it here.

Returns:

the previously retrieved host name.

6.307.2.4 static std::string activemq::util::IdGenerator::getSeedFromId (const std::string & *id*) [static]

Gets the seed value from a Generated Id, the count portion is removed.

Returns:

the seed portion of the Id, minus the count value.

6.307.2.5 static long long activemq::util::IdGenerator::getSequenceFromId (const std::string & *id*) [static]

Gets the count value from a Generated Id, the seed portion is removed.

Returns:

the sequence count portion of the id, minus the seed value.

6.307.3 Friends And Related Function Documentation

6.307.3.1 friend class activemq::library::ActiveMQCPP [friend]

The documentation for this class was generated from the following file:

- src/main/activemq/util/**IdGenerator.h**

6.308 decaf::lang::exceptions::IllegalArgumentException Class Reference

`#include <src/main/decaf/lang/exceptions/IllegalArgumentException.h>`Inheritance diagram for decaf::lang::exceptions::IllegalArgumentException:

Public Member Functions

- **IllegalArgumentException** ()
  Default Constructor.
- **IllegalArgumentException** (const **Exception** &ex)
  Conversion Constructor from some other ***Exception*** *(p. 1445).*
- **IllegalArgumentException** (const **IllegalArgumentException** &ex)
  Copy Constructor.
- **IllegalArgumentException** (const std::exception *cause)
  Constructor.
- **IllegalArgumentException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **IllegalArgumentException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **IllegalArgumentException** * **clone** () const
  Clones this exception.
- virtual ~**IllegalArgumentException** () throw ()

6.308.1 Constructor & Destructor Documentation

6.308.1.1 decaf::lang::exceptions::IllegalArgumentException::IllegalArgumentException ()

Default Constructor.

6.308.1.2 decaf::lang::exceptions::IllegalArgumentException::IllegalArgumentException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.308.1.3 decaf::lang::exceptions::IllegalArgumentException::IllegalArgumentException (const IllegalArgumentException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.308.1.4 decaf::lang::exceptions::IllegalArgumentException::IllegalArgumentException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.308.1.5 decaf::lang::exceptions::IllegalArgumentException::IllegalArgumentException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.308.1.6 decaf::lang::exceptions::IllegalArgumentException::IllegalArgumentException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.308.1.7 virtual decaf::lang::exceptions::IllegalArgumentException::~IllegalArgumentException () throw () [virtual]

6.308.2 Member Function Documentation

6.308.2.1 virtual IllegalArgumentException* decaf::lang::exceptions::IllegalArgumentException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**IllegalArgumentException.h**

6.309 decaf::lang::exceptions::IllegalMonitorStateException Class Reference

`#include <src/main/decaf/lang/exceptions/IllegalMonitorStateException.h>`Inheritance diagram for decaf::lang::exceptions::IllegalMonitorStateException:

Public Member Functions

- **IllegalMonitorStateException** ()
  Default Constructor.
- **IllegalMonitorStateException** (const **Exception** &ex)
  Conversion Constructor from some other ***Exception*** *(p. 1445).*
- **IllegalMonitorStateException** (const **IllegalMonitorStateException** &ex)
  Copy Constructor.
- **IllegalMonitorStateException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **IllegalMonitorStateException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **IllegalMonitorStateException** (const std::exception *cause)
  Constructor.
- virtual **IllegalMonitorStateException** * **clone** () const
  Clones this exception.
- virtual ~**IllegalMonitorStateException** () throw ()

6.309.1 Constructor & Destructor Documentation

6.309.1.1 decaf::lang::exceptions::IllegalMonitorStateException::IllegalMonitorStateException ()

Default Constructor.

6.309.1.2 decaf::lang::exceptions::IllegalMonitorStateException::IllegalMonitorStateException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.309.1.3 decaf::lang::exceptions::IllegalMonitorStateException::IllegalMonitorStateException (const IllegalMonitorStateException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.309.1.4 decaf::lang::exceptions::IllegalMonitorStateException::IllegalMonitorStateException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.309.1.5 decaf::lang::exceptions::IllegalMonitorStateException::IllegalMonitorStateException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.309.1.6 decaf::lang::exceptions::IllegalMonitorStateException::IllegalMonitorStateException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.309.1.7 virtual decaf::lang::exceptions::IllegalMonitorStateException::~IllegalMonitorStateException () throw () [virtual]

6.309.2 Member Function Documentation

6.309.2.1 virtual IllegalMonitorStateException* decaf::lang::exceptions::IllegalMonitorStateException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**IllegalMonitorStateException.h**

6.310 cms::IllegalStateException Class Reference

This exception is thrown when a method is invoked at an illegal or inappropriate time or if the provider is not in an appropriate state for the requested operation.

`#include <src/main/cms/IllegalStateException.h>`Inheritance diagram for cms::IllegalStateException:

Public Member Functions

- **IllegalStateException** ()
- **IllegalStateException** (const **IllegalStateException** &ex)
- **IllegalStateException** (const std::string &message)
- **IllegalStateException** (const std::string &message, const std::exception *cause)
- **IllegalStateException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**IllegalStateException** () throw ()
- virtual **IllegalStateException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.310.1 Detailed Description

This exception is thrown when a method is invoked at an illegal or inappropriate time or if the provider is not in an appropriate state for the requested operation. For example, this exception must be thrown if **Session.commit** (p. 2669) is called on a non-transacted session.

Since:

1.3

6.310.2 Constructor & Destructor Documentation

6.310.2.1 cms::IllegalStateException::IllegalStateException ()

6.310.2.2 cms::IllegalStateException::IllegalStateException (const IllegalStateException & *ex*)

6.310.2.3 cms::IllegalStateException::IllegalStateException (const std::string & *message*)

6.310.2.4 cms::IllegalStateException::IllegalStateException (const std::string & *message*, const std::exception * *cause*)

6.310.2.5 cms::IllegalStateException::IllegalStateException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.310.2.6 virtual cms::IllegalStateException::~IllegalStateException () throw () [virtual]

6.310.3 Member Function Documentation

6.310.3.1 virtual IllegalStateException* cms::IllegalStateException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**IllegalStateException.h**

6.311 decaf::lang::exceptions::IllegalStateException Class Reference

`#include <src/main/decaf/lang/exceptions/IllegalStateException.h>`Inheritance diagram for decaf::lang::exceptions::IllegalStateException:

Public Member Functions

- **IllegalStateException** ()

  Default Constructor.

- **IllegalStateException** (const **Exception** &ex)

  Conversion Constructor from some other ***Exception*** *(*p. *1445).*

- **IllegalStateException** (const **IllegalStateException** &ex)

  Copy Constructor.

- **IllegalStateException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **IllegalStateException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **IllegalStateException** (const std::exception *cause)

  Constructor.

- virtual **IllegalStateException** * **clone** () const

  Clones this exception.

- virtual ~**IllegalStateException** () throw ()

6.311.1 Constructor & Destructor Documentation

6.311.1.1 decaf::lang::exceptions::IllegalStateException::IllegalStateException ()

Default Constructor.

6.311.1.2 decaf::lang::exceptions::IllegalStateException::IllegalStateException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.311.1.3 decaf::lang::exceptions::IllegalStateException::IllegalStateException (const IllegalStateException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.311.1.4 decaf::lang::exceptions::IllegalStateException::IllegalStateException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.311.1.5 decaf::lang::exceptions::IllegalStateException::IllegalStateException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.311.1.6 decaf::lang::exceptions::IllegalStateException::IllegalStateException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.311.1.7 virtual decaf::lang::exceptions::IllegalStateException::~IllegalStateException () throw () [virtual]

6.311.2 Member Function Documentation

6.311.2.1 virtual IllegalStateException* decaf::lang::exceptions::IllegalStateException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

Reimplemented in **decaf::nio::InvalidMarkException** (p. 1768).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**IllegalStateException.h**

6.312 decaf::lang::exceptions::IllegalThreadStateException Class Reference

`#include <src/main/decaf/lang/exceptions/IllegalThreadStateException.h>`Inheritance diagram for decaf::lang::exceptions::IllegalThreadStateException:

Public Member Functions

- **IllegalThreadStateException** ()
  Default Constructor.
- **IllegalThreadStateException** (const **Exception** &ex)
  Conversion Constructor from some other ***Exception*** *(p. 1445).*
- **IllegalThreadStateException** (const **IllegalThreadStateException** &ex)
  Copy Constructor.
- **IllegalThreadStateException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occured.
- **IllegalThreadStateException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **IllegalThreadStateException** (const std::exception *cause)
  Constructor.
- virtual **IllegalThreadStateException** * **clone** () const
  Clones this exception.
- virtual ~**IllegalThreadStateException** () throw ()

6.312.1 Constructor & Destructor Documentation

6.312.1.1 decaf::lang::exceptions::IllegalThreadStateException::IllegalThreadStateException ()

Default Constructor.

6.312.1.2 decaf::lang::exceptions::IllegalThreadStateException::IllegalThreadStateException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.312.1.3 decaf::lang::exceptions::IllegalThreadStateException::IllegalThreadStateException (const IllegalThreadStateException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.312.1.4 decaf::lang::exceptions::IllegalThreadStateException::IllegalThreadStateException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occured. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.312.1.5 decaf::lang::exceptions::IllegalThreadStateException::IllegalThreadStateException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.312.1.6 decaf::lang::exceptions::IllegalThreadStateException::IllegalThreadStateException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.312.1.7 virtual decaf::lang::exceptions::IllegalThreadStateException::~IllegalThreadStateException () throw () [virtual]

6.312.2 Member Function Documentation

6.312.2.1 virtual IllegalThreadStateException* decaf::lang::exceptions::IllegalThreadStateException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**IllegalThreadStateException.h**

6.313 activemq::transport::inactivity::InactivityMonitor Class Reference

`#include <src/main/activemq/transport/inactivity/InactivityMonitor.h>`Inheritance diagram for activemq::transport::inactivity::InactivityMonitor:

Public Member Functions

- **InactivityMonitor** (const **Pointer< Transport > next**, const **Pointer< wireformat::WireFormat >** wireFormat)
- **InactivityMonitor** (const **Pointer< Transport > next**, const **decaf::util::Properties** &properties, const **Pointer< wireformat::WireFormat >** wireFormat)
- virtual ~**InactivityMonitor** ()
- virtual void **onException** (const **decaf::lang::Exception** &ex)

  Event handler for an exception from a command ***transport*** *(p. 72).*

- virtual void **onCommand** (const **Pointer< Command >** command)

  Event handler for the receipt of a command.

- virtual void **oneway** (const **Pointer< Command >** command)

  Sends a one-way command.

- bool **isKeepAliveResponseRequired** () const
- void **setKeepAliveResponseRequired** (bool value)
- long long **getReadCheckTime** () const
- void **setReadCheckTime** (long long value)
- long long **getWriteCheckTime** () const
- void **setWriteCheckTime** (long long value)
- long long **getInitialDelayTime** () const
- void **setInitialDelayTime** (long long value) const

Protected Member Functions

- virtual void **afterNextIsStarted** ()

  Subclasses can override this method to do their own post startup work.

- virtual void **beforeNextIsStopped** ()

  Subclasses can override this method to do their own pre-stop work.

- virtual void **doClose** ()

  Subclasses can override this method to do their own close work.

Friends

- class **ReadChecker**
- class **AsyncSignalReadErrorkTask**
- class **WriteChecker**
- class **AsyncWriteTask**

6.313.1 Constructor & Destructor Documentation

6.313.1.1 activemq::transport::inactivity::InactivityMonitor::InactivityMonitor (const Pointer< Transport > *next*, const Pointer< wireformat::WireFormat > *wireFormat*)

6.313.1.2 activemq::transport::inactivity::InactivityMonitor::InactivityMonitor (const Pointer< Transport > *next*, const decaf::util::Properties & *properties*, const Pointer< wireformat::WireFormat > *wireFormat*)

6.313.1.3 virtual activemq::transport::inactivity::InactivityMonitor::~InactivityMonitor () [virtual]

6.313.2 Member Function Documentation

6.313.2.1 virtual void activemq::transport::inactivity::InactivityMonitor::afterNextIsStarted () [protected, virtual]

Subclasses can override this method to do their own post startup work. This method will always be called after the doStart() method and the next transport's own **start()** (p. 3128) methods have been successfully run.

Reimplemented from **activemq::transport::TransportFilter** (p. 3121).

6.313.2.2 virtual void activemq::transport::inactivity::InactivityMonitor::beforeNextIsStopped () [protected, virtual]

Subclasses can override this method to do their own pre-stop work. This method will always be called before the next transport's own **stop()** (p. 3128) method or this filter's own doStop() method is called.

Reimplemented from **activemq::transport::TransportFilter** (p. 3122).

6.313.2.3 virtual void activemq::transport::inactivity::InactivityMonitor::doClose () [protected, virtual]

Subclasses can override this method to do their own close work. This method is always called after all the next transports have been closed to prevent this **transport** (p. 72) for destroying resources needed by the lower level transports.

Reimplemented from **activemq::transport::TransportFilter** (p. 3123).

6.313.2.4 long long activemq::transport::inactivity::InactivityMonitor::getInitialDelayTime () const

6.313.2.5 long long activemq::transport::inactivity::InactivityMonitor::getReadCheckTime () const

6.313.2.6 long long activemq::transport::inactivity::InactivityMonitor::getWriteCheckTime () const

6.313.2.7 bool activemq::transport::inactivity::InactivityMonitor::isKeepAliveResponseRequired () const

6.313.2.8 virtual void activemq::transport::inactivity::InactivityMonitor::onCommand (const Pointer< Command > *command*) [virtual]

Event handler for the receipt of a command.

Parameters:

command - the received command object.

Reimplemented from **activemq::transport::TransportFilter** (p. 3125).

6.313.2.9 virtual void activemq::transport::inactivity::InactivityMonitor::oneway (const Pointer< Command > *command*) [virtual]

Sends a one-way command. Does not wait for any response from the broker.

Parameters:

command The command to be sent.

Exceptions:

IOException if an exception occurs during writing of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3125).

6.313.2.10 virtual void activemq::transport::inactivity::InactivityMonitor::onException (const decaf::lang::Exception & *ex*) [virtual]

Event handler for an exception from a command **transport** (p. 72).

Parameters:

ex The exception to handle.

Reimplemented from **activemq::transport::TransportFilter** (p. 3126).

6.313.2.11 void activemq::transport::inactivity::InactivityMonitor::setInitialDelayTime (long long *value*) const

6.313.2.12 void activemq::transport::inactivity::InactivityMonitor::setKeepAliveResponseRequired (bool *value*)

6.313.2.13 void activemq::transport::inactivity::InactivityMonitor::setReadCheckTime (long long *value*)

6.313.2.14 void activemq::transport::inactivity::InactivityMonitor::setWriteCheckTime (long long *value*)

6.313.3 Friends And Related Function Documentation

6.313.3.1 friend class AsyncSignalReadErrorkTask [friend]

6.313.3.2 friend class AsyncWriteTask [friend]

6.313.3.3 friend class ReadChecker [friend]

6.313.3.4 friend class WriteChecker [friend]

The documentation for this class was generated from the following file:

- src/main/activemq/transport/inactivity/**InactivityMonitor.h**

6.314 decaf::lang::exceptions::IndexOutOfBoundsException Class Reference

`#include <src/main/decaf/lang/exceptions/IndexOutOfBoundsException.h>`Inheritance diagram for decaf::lang::exceptions::IndexOutOfBoundsException:

Public Member Functions

- **IndexOutOfBoundsException** ()
  Default Constructor.
- **IndexOutOfBoundsException** (const **Exception** &ex)
  Conversion Constructor from some other ***Exception*** *(p. 1445).*
- **IndexOutOfBoundsException** (const **IndexOutOfBoundsException** &ex)
  Copy Constructor.
- **IndexOutOfBoundsException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **IndexOutOfBoundsException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **IndexOutOfBoundsException** (const std::exception *cause)
  Constructor.
- virtual **IndexOutOfBoundsException** * **clone** () const
  Clones this exception.
- virtual ~**IndexOutOfBoundsException** () throw ()

6.314.1 Constructor & Destructor Documentation

6.314.1.1 decaf::lang::exceptions::IndexOutOfBoundsException::IndexOutOfBoundsException ()

Default Constructor.

6.314.1.2 decaf::lang::exceptions::IndexOutOfBoundsException::IndexOutOfBoundsException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.314.1.3 decaf::lang::exceptions::IndexOutOfBoundsException::IndexOutOfBoundsException (const IndexOutOfBoundsException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.314.1.4 decaf::lang::exceptions::IndexOutOfBoundsException::IndexOutOfBoundsException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.314.1.5 decaf::lang::exceptions::IndexOutOfBoundsException::IndexOutOfBoundsException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.314.1.6 decaf::lang::exceptions::IndexOutOfBoundsException::IndexOutOfBoundsException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.314.1.7 virtual decaf::lang::exceptions::IndexOutOfBoundsException::~IndexOutOfBoundsException () throw () [virtual]

6.314.2 Member Function Documentation

6.314.2.1 virtual IndexOutOfBoundsException* decaf::lang::exceptions::IndexOutOfBoundsException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**IndexOutOfBoundsException.h**

6.315 decaf::net::Inet4Address Class Reference

`#include <src/main/decaf/net/Inet4Address.h>`Inheritance diagram for decaf::net::Inet4Address:

Public Member Functions

- virtual ~**Inet4Address** ()
- virtual **InetAddress** * **clone** () const

  *Returns a newly allocated copy of this **InetAddress** (p. 1666).*

- virtual bool **isAnyLocalAddress** () const

  *Check if this **InetAddress** (p. 1666) is a valid wildcard address.*

- virtual bool **isLoopbackAddress** () const

  *Check if this **InetAddress** (p. 1666) is a valid loopback address.*

- virtual bool **isMulticastAddress** () const

  *Check if this **InetAddress** (p. 1666) is a valid Multicast address.*

- virtual bool **isLinkLocalAddress** () const

  *Check if this **InetAddress** (p. 1666) is a valid link local address.*

- virtual bool **isSiteLocalAddress** () const

  *Check if this **InetAddress** (p. 1666) is a valid site local address.*

- virtual bool **isMCGlobal** () const

  *Check if this **InetAddress** (p. 1666) is Multicast and has Global scope.*

- virtual bool **isMCNodeLocal** () const

  *Check if this **InetAddress** (p. 1666) is Multicast and has Node Local scope.*

- virtual bool **isMCLinkLocal** () const

  *Check if this **InetAddress** (p. 1666) is Multicast and has Link Local scope.*

- virtual bool **isMCSiteLocal** () const

  *Check if this **InetAddress** (p. 1666) is Multicast and has Site Local scope.*

- virtual bool **isMCOrgLocal** () const

  *Check if this **InetAddress** (p. 1666) is Multicast and has Organization scope.*

Protected Member Functions

- **Inet4Address** ()
- **Inet4Address** (const unsigned char *ipAddress, int numBytes)
- **Inet4Address** (const std::string &**hostname**, const unsigned char *ipAddress, int numBytes)

Friends

- class **InetAddress**

6.315.1 Constructor & Destructor Documentation

6.315.1.1 decaf::net::Inet4Address::Inet4Address () [protected]

6.315.1.2 decaf::net::Inet4Address::Inet4Address (const unsigned char * *ipAddress*, int *numBytes*) [protected]

6.315.1.3 decaf::net::Inet4Address::Inet4Address (const std::string & *hostname*, const unsigned char * *ipAddress*, int *numBytes*) [protected]

6.315.1.4 virtual decaf::net::Inet4Address::~Inet4Address () [virtual]

6.315.2 Member Function Documentation

6.315.2.1 virtual InetAddress* decaf::net::Inet4Address::clone () const [virtual]

Returns a newly allocated copy of this **InetAddress** (p. 1666). The caller owns the resulting copy and must delete it.

Returns:

a new **InetAddress** (p. 1666) instance that is a copy of this one, caller owns.

Reimplemented from **decaf::net::InetAddress** (p. 1668).

6.315.2.2 virtual bool decaf::net::Inet4Address::isAnyLocalAddress () const [virtual]

Check if this **InetAddress** (p. 1666) is a valid wildcard address.

Returns:

true if the address is a wildcard address.

Reimplemented from **decaf::net::InetAddress** (p. 1670).

6.315.2.3 virtual bool decaf::net::Inet4Address::isLinkLocalAddress () const [virtual]

Check if this **InetAddress** (p. 1666) is a valid link local address.

Returns:

true if the address is a link local address.

Reimplemented from **decaf::net::InetAddress** (p. 1670).

6.315.2.4 virtual bool decaf::net::Inet4Address::isLoopbackAddress () const [virtual]

Check if this **InetAddress** (p. 1666) is a valid loopback address.

Returns:

true if the address is a loopback address.

Reimplemented from **decaf::net::InetAddress** (p. 1671).

6.315.2.5 virtual bool decaf::net::Inet4Address::isMCGlobal () const [virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Global scope.

Returns:

true if the address is Multicast and has Global scope.

Reimplemented from **decaf::net::InetAddress** (p. 1671).

6.315.2.6 virtual bool decaf::net::Inet4Address::isMCLinkLocal () const [virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Link Local scope.

Returns:

true if the address is Multicast and has Link Local scope.

Reimplemented from **decaf::net::InetAddress** (p. 1671).

6.315.2.7 virtual bool decaf::net::Inet4Address::isMCNodeLocal () const [virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Node Local scope.

Returns:

true if the address is Multicast and has Node Local scope.

Reimplemented from **decaf::net::InetAddress** (p. 1671).

6.315.2.8 virtual bool decaf::net::Inet4Address::isMCOrgLocal () const [virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Organization scope.

Returns:

true if the address is Multicast and has Organization scope.

Reimplemented from **decaf::net::InetAddress** (p. 1671).

6.315.2.9 virtual bool decaf::net::Inet4Address::isMCSiteLocal () const [virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Site Local scope.

Returns:

true if the address is Multicast and has Site Local scope.

Reimplemented from **decaf::net::InetAddress** (p. 1672).

6.315.2.10 virtual bool decaf::net::Inet4Address::isMulticastAddress () const [virtual]

Check if this **InetAddress** (p. 1666) is a valid Multicast address.

Returns:

true if the address is a Multicast address.

Reimplemented from **decaf::net::InetAddress** (p. 1672).

6.315.2.11 virtual bool decaf::net::Inet4Address::isSiteLocalAddress () const [virtual]

Check if this **InetAddress** (p. 1666) is a valid site local address.

Returns:

true if the address is a site local address.

Reimplemented from **decaf::net::InetAddress** (p. 1672).

6.315.3 Friends And Related Function Documentation

6.315.3.1 friend class InetAddress [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/net/**Inet4Address.h**

6.316 decaf::net::Inet6Address Class Reference

`#include <src/main/decaf/net/Inet6Address.h>`Inheritance diagram for decaf::net::Inet6Address:

Public Member Functions

- virtual ~**Inet6Address** ()
- virtual **InetAddress** * **clone** () const

  *Returns a newly allocated copy of this **InetAddress** (p. 1666).*

Protected Member Functions

- **Inet6Address** ()
- **Inet6Address** (const unsigned char *ipAddress, int numBytes)
- **Inet6Address** (const std::string &**hostname**, const unsigned char *ipAddress, int numBytes)

Friends

- class **InetAddress**

6.316.1 Constructor & Destructor Documentation

6.316.1.1 decaf::net::Inet6Address::Inet6Address () [protected]

6.316.1.2 decaf::net::Inet6Address::Inet6Address (const unsigned char * *ipAddress*, int *numBytes*) [protected]

6.316.1.3 decaf::net::Inet6Address::Inet6Address (const std::string & *hostname*, const unsigned char * *ipAddress*, int *numBytes*) [protected]

6.316.1.4 virtual decaf::net::Inet6Address::~Inet6Address () [virtual]

6.316.2 Member Function Documentation

6.316.2.1 virtual InetAddress* decaf::net::Inet6Address::clone () const [virtual]

Returns a newly allocated copy of this **InetAddress** (p. 1666). The caller owns the resulting copy and must delete it.

Returns:

a new **InetAddress** (p. 1666) instance that is a copy of this one, caller owns.

Reimplemented from **decaf::net::InetAddress** (p. 1668).

6.316.3 Friends And Related Function Documentation

6.316.3.1 friend class InetAddress [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/net/**Inet6Address.h**

6.317 decaf::net::InetAddress Class Reference

Represents an IP address.

`#include <src/main/decaf/net/InetAddress.h>`Inheritance diagram for decaf::net::InetAddress:

Public Member Functions

- virtual ~**InetAddress** ()
- virtual **decaf::lang::ArrayPointer**< unsigned char > **getAddress** () const

  Returns the Raw IP address in Network byte order.

- virtual std::string **getHostAddress** () const

  Returns a textual representation of the IP Address.

- virtual std::string **getHostName** () const

  Get the host name associated with this ***InetAddress*** (p. *1666*) *instance.*

- virtual std::string **toString** () const

  Returns a string representation of the ***InetAddress*** (p. *1666*) *in the form 'hostname / ipaddress'.*

- virtual **InetAddress** * **clone** () const

  Returns a newly allocated copy of this ***InetAddress*** (p. *1666*).

- virtual bool **isAnyLocalAddress** () const

  Check if this ***InetAddress*** (p. *1666*) *is a valid wildcard address.*

- virtual bool **isLoopbackAddress** () const

  Check if this ***InetAddress*** (p. *1666*) *is a valid loopback address.*

- virtual bool **isMulticastAddress** () const

  Check if this ***InetAddress*** (p. *1666*) *is a valid Multicast address.*

- virtual bool **isLinkLocalAddress** () const

  Check if this ***InetAddress*** (p. *1666*) *is a valid link local address.*

- virtual bool **isSiteLocalAddress** () const

  Check if this ***InetAddress*** (p. *1666*) *is a valid site local address.*

- virtual bool **isMCGlobal** () const

  Check if this ***InetAddress*** (p. *1666*) *is Multicast and has Global scope.*

- virtual bool **isMCNodeLocal** () const

  Check if this ***InetAddress*** (p. *1666*) *is Multicast and has Node Local scope.*

- virtual bool **isMCLinkLocal** () const

*Check if this **InetAddress** (p. 1666) is Multicast and has Link Local scope.*

- virtual bool **isMCSiteLocal** () const

  *Check if this **InetAddress** (p. 1666) is Multicast and has Site Local scope.*

- virtual bool **isMCOrgLocal** () const

  *Check if this **InetAddress** (p. 1666) is Multicast and has Organization scope.*

Static Public Member Functions

- static **InetAddress getByAddress** (const unsigned char *bytes, int numBytes)

  *Given a raw IP Address in byte array form, create and return a new **InetAddress** (p. 1666) instance.*

- static **InetAddress getByAddress** (const std::string &**hostname**, const unsigned char *bytes, int numBytes)

  *Given a host name and IPAddress return a new **InetAddress** (p. 1666).*

- static **InetAddress getLocalHost** ()

  *Gets an **InetAddress** (p. 1666) that is the local host address.*

Protected Member Functions

- **InetAddress** ()
- **InetAddress** (const unsigned char *ipAddress, int numBytes)
- **InetAddress** (const std::string &**hostname**, const unsigned char *ipAddress, int numBytes)

Static Protected Member Functions

- static unsigned int **bytesToInt** (const unsigned char *bytes, int start)

  Converts the bytes in an address array to an int starting from the value start treating the start value as the high order byte.

- static **InetAddress getAnyAddress** ()
- static **InetAddress getLoopbackAddress** ()

Protected Attributes

- std::string **hostname**
- bool **reached**
- **decaf::lang::ArrayPointer**< unsigned char > **addressBytes**

Static Protected Attributes

- static const unsigned char **loopbackBytes** [4]
- static const unsigned char **anyBytes** [4]

6.317.1 Detailed Description

Represents an IP address.

Since:

1.0

6.317.2 Constructor & Destructor Documentation

6.317.2.1 decaf::net::InetAddress::InetAddress () [protected]

6.317.2.2 decaf::net::InetAddress::InetAddress (const unsigned char * *ipAddress*, int *numBytes*) [protected]

6.317.2.3 decaf::net::InetAddress::InetAddress (const std::string & *hostname*, const unsigned char * *ipAddress*, int *numBytes*) [protected]

6.317.2.4 virtual decaf::net::InetAddress::~InetAddress () [virtual]

6.317.3 Member Function Documentation

6.317.3.1 static unsigned int decaf::net::InetAddress::bytesToInt (const unsigned char * *bytes*, int *start*) [static, protected]

Converts the bytes in an address array to an int starting from the value start treating the start value as the high order byte.

Parameters:

bytes The array of bytes to convert to an int.

start The index in the array to treat as the high order byte.

Returns:

an unsigned int that represents the address value.

6.317.3.2 virtual InetAddress* decaf::net::InetAddress::clone () const [virtual]

Returns a newly allocated copy of this **InetAddress** (p. 1666). The caller owns the resulting copy and must delete it.

Returns:

a new **InetAddress** (p. 1666) instance that is a copy of this one, caller owns.

Reimplemented in **decaf::net::Inet4Address** (p. 1661), and **decaf::net::Inet6Address** (p. 1664).

6.317.3.3 virtual decaf::lang::ArrayPointer<unsigned char> decaf::net::InetAddress::getAddress () const [virtual]

Returns the Raw IP address in Network byte order. The returned address is a copy of the bytes contained in this **InetAddress** (p. 1666).

Returns:

and ArrayPointer containing the raw bytes of the network address.

6.317.3.4 static InetAddress decaf::net::InetAddress::getAnyAddress () [static, protected]

6.317.3.5 static InetAddress decaf::net::InetAddress::getByAddress (const std::string & *hostname*, const unsigned char * *bytes*, int *numBytes*) [static]

Given a host name and IPAddress return a new **InetAddress** (p. 1666). There is no name service checking or address validation done on the provided host name. The host name can either be machine name or the text based representation of the IP Address.

An IPV4 address must be only four bytes in length and an IPV6 address must be 16 bytes in length.

Returns:

a copy of an **InetAddress** (p. 1666) that represents the given byte array address.

Exceptions:

UnknownHostException *(p. 3138)* if the address array length is invalid.

6.317.3.6 static InetAddress decaf::net::InetAddress::getByAddress (const unsigned char * *bytes*, int *numBytes*) [static]

Given a raw IP Address in byte array form, create and return a new **InetAddress** (p. 1666) instance. An IPV4 address must be only four bytes in length and an IPV6 address must be 16 bytes in length.

Returns:

a copy of an **InetAddress** (p. 1666) that represents the given byte array address.

Exceptions:

UnknownHostException *(p. 3138)* if the address array length is invalid.

6.317.3.7 virtual std::string decaf::net::InetAddress::getHostAddress () const [virtual]

Returns a textual representation of the IP Address.

Returns:

the string form of the IP Address.

6.317.3.8 virtual std::string decaf::net::InetAddress::getHostName () const [virtual]

Get the host name associated with this **InetAddress** (p. 1666) instance. If a host name was set upon construction then that value is returned, otherwise a reverse name lookup with be performed to attempt to get the host name associated with the set IP Address. If the host name cannot be resolved the textual representation of the IP Address is returned instead.

Returns:

the name of the host associated with this set IP Address.

6.317.3.9 static InetAddress decaf::net::InetAddress::getLocalHost () [static]

Gets an **InetAddress** (p. 1666) that is the local host address. If the localhost value cannot be resolved than the **InetAddress** (p. 1666) for Loopback is returned.

Returns:

a new **InetAddress** (p. 1666) object that contains the local host address.

Exceptions:

UnknownHostException (p. ***3138***) if the address for local host is not found.

6.317.3.10 static InetAddress decaf::net::InetAddress::getLoopbackAddress () [static, protected]

6.317.3.11 virtual bool decaf::net::InetAddress::isAnyLocalAddress () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is a valid wildcard address.

Returns:

true if the address is a wildcard address.

Reimplemented in **decaf::net::Inet4Address** (p. 1661).

6.317.3.12 virtual bool decaf::net::InetAddress::isLinkLocalAddress () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is a valid link local address.

Returns:

true if the address is a link local address.

Reimplemented in **decaf::net::Inet4Address** (p. 1661).

6.317.3.13 virtual bool decaf::net::InetAddress::isLoopbackAddress () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is a valid loopback address.

Returns:

true if the address is a loopback address.

Reimplemented in **decaf::net::Inet4Address** (p. 1662).

6.317.3.14 virtual bool decaf::net::InetAddress::isMCGlobal () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Global scope.

Returns:

true if the address is Multicast and has Global scope.

Reimplemented in **decaf::net::Inet4Address** (p. 1662).

6.317.3.15 virtual bool decaf::net::InetAddress::isMCLinkLocal () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Link Local scope.

Returns:

true if the address is Multicast and has Link Local scope.

Reimplemented in **decaf::net::Inet4Address** (p. 1662).

6.317.3.16 virtual bool decaf::net::InetAddress::isMCNodeLocal () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Node Local scope.

Returns:

true if the address is Multicast and has Node Local scope.

Reimplemented in **decaf::net::Inet4Address** (p. 1662).

6.317.3.17 virtual bool decaf::net::InetAddress::isMCOrgLocal () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Organization scope.

Returns:

true if the address is Multicast and has Organization scope.

Reimplemented in **decaf::net::Inet4Address** (p. 1662).

6.317.3.18 virtual bool decaf::net::InetAddress::isMCSiteLocal () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is Multicast and has Site Local scope.

Returns:

true if the address is Multicast and has Site Local scope.

Reimplemented in **decaf::net::Inet4Address** (p. 1663).

6.317.3.19 virtual bool decaf::net::InetAddress::isMulticastAddress () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is a valid Multicast address.

Returns:

true if the address is a Multicast address.

Reimplemented in **decaf::net::Inet4Address** (p. 1663).

6.317.3.20 virtual bool decaf::net::InetAddress::isSiteLocalAddress () const [inline, virtual]

Check if this **InetAddress** (p. 1666) is a valid site local address.

Returns:

true if the address is a site local address.

Reimplemented in **decaf::net::Inet4Address** (p. 1663).

6.317.3.21 virtual std::string decaf::net::InetAddress::toString () const [virtual]

Returns a string representation of the **InetAddress** (p. 1666) in the form 'hostname / ipaddress'. If the hostname is not resolved than it appears as empty.

Returns:

string value of this **InetAddress** (p. 1666).

6.317.4 Field Documentation

6.317.4.1 decaf::lang::ArrayPointer<unsigned char> decaf::net::InetAddress::addressBytes [mutable, protected]

6.317.4.2 const unsigned char decaf::net::InetAddress::anyBytes[4] [static, protected]

6.317.4.3 std::string decaf::net::InetAddress::hostname [mutable, protected]

6.317.4.4 const unsigned char decaf::net::InetAddress::loopbackBytes[4] [static, protected]

6.317.4.5 bool decaf::net::InetAddress::reached [mutable, protected]

The documentation for this class was generated from the following file:

- src/main/decaf/net/**InetAddress.h**

6.318 decaf::net::InetSocketAddress Class Reference

`#include <src/main/decaf/net/InetSocketAddress.h>`Inheritance diagram for decaf::net::InetSocketAddress:

Public Member Functions

- **InetSocketAddress** ()
- virtual ~**InetSocketAddress** ()

6.318.1 Constructor & Destructor Documentation

6.318.1.1 decaf::net::InetSocketAddress::InetSocketAddress ()

6.318.1.2 virtual decaf::net::InetSocketAddress::~InetSocketAddress () `[virtual]`

The documentation for this class was generated from the following file:

- src/main/decaf/net/**InetSocketAddress.h**

6.319 inflate_state Struct Reference

`#include <src/main/decaf/internal/util/zip/inflate.h>`

Data Fields

- **inflate_mode mode**
- int **last**
- int **wrap**
- int **havedict**
- int **flags**
- unsigned **dmax**
- unsigned long **check**
- unsigned long **total**
- **gz_headerp head**
- unsigned **wbits**
- unsigned **wsize**
- unsigned **whave**
- unsigned **wnext**
- unsigned char FAR * **window**
- unsigned long **hold**
- unsigned **bits**
- unsigned **length**
- unsigned **offset**
- unsigned **extra**
- **code** const FAR * **lencode**
- **code** const FAR * **distcode**
- unsigned **lenbits**
- unsigned **distbits**
- unsigned **ncode**
- unsigned **nlen**
- unsigned **ndist**
- unsigned **have**
- **code** FAR * **next**
- unsigned short **lens** [320]
- unsigned short **work** [288]
- **code codes** [ENOUGH]
- int **sane**
- int **back**
- unsigned **was**

6.319.1 Field Documentation

6.319.1.1 int inflate_state::back

6.319.1.2 unsigned inflate_state::bits

6.319.1.3 unsigned long inflate_state::check

6.319.1.4 code inflate_state::codes[ENOUGH]

6.319.1.5 unsigned inflate_state::distbits

6.319.1.6 code const FAR* inflate_state::distcode

6.319.1.7 unsigned inflate_state::dmax

6.319.1.8 unsigned inflate_state::extra

6.319.1.9 int inflate_state::flags

6.319.1.10 unsigned inflate_state::have

6.319.1.11 int inflate_state::havedict

6.319.1.12 gz_headerp inflate_state::head

6.319.1.13 unsigned long inflate_state::hold

6.319.1.14 int inflate_state::last

6.319.1.15 unsigned inflate_state::lenbits

6.319.1.16 code const FAR* inflate_state::lencode

6.319.1.17 unsigned inflate_state::length

6.319.1.18 unsigned short inflate_state::lens[320]

6.319.1.19 inflate_mode inflate_state::mode

6.319.1.20 unsigned inflate_state::ncode

6.319.1.21 unsigned inflate_state::ndist

6.319.1.22 code FAR* inflate_state::next

6.319.1.23 unsigned inflate_state::nlen

6.319.1.24 unsigned inflate_state::offset

6.319.1.25 int inflate_state::sane

6.319.1.26 unsigned long inflate_state::total

6.319.1.27 unsigned inflate_state::was

6.319.1.28 unsigned inflate_state::wbits

6.319.1.29 unsigned inflate_state::whave

6.319.1.30 unsigned char FAR* inflate_state::window

- src/main/decaf/internal/util/zip/**inflate.h**

6.320 decaf::util::zip::Inflater Class Reference

This class uncompresses data that was compressed using the *DEFLATE* algorithm (see `specification`).

`#include <src/main/decaf/util/zip/Inflater.h>`

Public Member Functions

- **Inflater** ()

  Creates a new decompressor.

- **Inflater** (bool nowrap)

  Creates a new decompressor.

- virtual ~**Inflater** ()
- void **setInput** (const unsigned char *buffer, int size, int offset, int length)

  Sets input data for decompression.

- void **setInput** (const std::vector< unsigned char > &buffer, int offset, int length)

  Sets input data for decompression.

- void **setInput** (const std::vector< unsigned char > &buffer)

  Sets input data for decompression.

- int **getRemaining** () const

  Returns the total number of bytes remaining in the input buffer.

- void **setDictionary** (const unsigned char *buffer, int size, int offset, int length)

  Sets the preset dictionary to the given array of bytes.

- void **setDictionary** (const std::vector< unsigned char > &buffer, int offset, int length)

  Sets the preset dictionary to the given array of bytes.

- void **setDictionary** (const std::vector< unsigned char > &buffer)

  Sets the preset dictionary to the given array of bytes.

- bool **needsInput** () const
- bool **needsDictionary** () const
- void **finish** ()

  When called, indicates that decompression should end with the current contents of the input buffer.

- bool **finished** () const
- int **inflate** (unsigned char *buffer, int size, int offset, int length)

  Uncompresses bytes into specified buffer.

- int **inflate** (std::vector< unsigned char > &buffer, int offset, int length)

  Uncompresses bytes into specified buffer.

- int **inflate** (std::vector< unsigned char > &buffer)

  Uncompresses bytes into specified buffer.

- long long **getAdler** () const
- long long **getBytesRead** () const
- long long **getBytesWritten** () const
- void **reset** ()

  Resets deflater so that a new set of input data can be processed.

- void **end** ()

  Closes the decompressor and discards any unprocessed input.

6.320.1 Detailed Description

This class uncompresses data that was compressed using the *DEFLATE* algorithm (see `specification`). Basically this class is part of the API to the stream based ZLIB compression library and is used as such by **InflaterInputStream** (p. 1686) and its descendants.

The typical usage of a **Inflater** (p. 1678) outside this package consists of a specific call to one of its constructors before being passed to an instance of **InflaterInputStream** (p. 1686).

See also:

InflaterInputStream (p. 1686)
Deflater (p. 1344)

Since:

1.0

6.320.2 Constructor & Destructor Documentation

6.320.2.1 decaf::util::zip::Inflater::Inflater ()

Creates a new decompressor. This constructor defaults the inflater to use the ZLIB header and checksum fields.

6.320.2.2 decaf::util::zip::Inflater::Inflater (bool *nowrap*)

Creates a new decompressor. If the parameter 'nowrap' is true then the ZLIB header and checksum fields will not be used. This provides compatibility with the compression format used by both GZIP and PKZIP.

Note: When using the 'nowrap' option it is also necessary to provide an extra "dummy" byte as input. This is required by the ZLIB native library in order to support certain optimizations.

6.320.2.3 virtual decaf::util::zip::Inflater::~Inflater () [virtual]

6.320.3 Member Function Documentation

6.320.3.1 void decaf::util::zip::Inflater::end ()

Closes the decompressor and discards any unprocessed input. This method should be called when the decompressor is no longer being used, but will also be called automatically by the destructor. Once this method is called, the behavior of the **Inflater** (p. 1678) object is undefined.

6.320.3.2 void decaf::util::zip::Inflater::finish ()

When called, indicates that decompression should end with the current contents of the input buffer.

6.320.3.3 bool decaf::util::zip::Inflater::finished () const

Returns:

true if the end of the compressed data output stream has been reached.

6.320.3.4 long long decaf::util::zip::Inflater::getAdler () const

Returns:

the ADLER-32 value of the uncompressed data.

Exceptions:

IllegalStateException if in the end state.

6.320.3.5 long long decaf::util::zip::Inflater::getBytesRead () const

Returns:

the total number of compressed bytes input so far.

Exceptions:

IllegalStateException if in the end state.

6.320.3.6 long long decaf::util::zip::Inflater::getBytesWritten () const

Returns:

the total number of decompressed bytes output so far.

Exceptions:

IllegalStateException if in the end state.

6.320.3.7 int decaf::util::zip::Inflater::getRemaining () const

Returns the total number of bytes remaining in the input buffer. This can be used to find out what bytes still remain in the input buffer after decompression has finished.

Returns:

the total number of bytes remaining in the input buffer

6.320.3.8 int decaf::util::zip::Inflater::inflate (std::vector< unsigned char > & *buffer*)

Uncompresses bytes into specified buffer. Returns actual number of bytes uncompressed. A return value of 0 indicates that **needsInput()** (p. 1682) or **needsDictionary()** (p. 1682) should be called in order to determine if more input data or a preset dictionary is required. In the latter case, **getAdler()** (p. 1680) can be used to get the Adler-32 value of the dictionary required.

Parameters:

buffer The Buffer to write the compressed data to.

Exceptions:

IllegalStateException if in the end state.

DataFormatException *(p. 1239)* if the compressed data format is invalid.

6.320.3.9 int decaf::util::zip::Inflater::inflate (std::vector< unsigned char > & *buffer*, int *offset*, int *length*)

Uncompresses bytes into specified buffer. Returns actual number of bytes uncompressed. A return value of 0 indicates that **needsInput()** (p. 1682) or **needsDictionary()** (p. 1682) should be called in order to determine if more input data or a preset dictionary is required. In the latter case, **getAdler()** (p. 1680) can be used to get the Adler-32 value of the dictionary required.

Parameters:

buffer The Buffer to write the compressed data to.

offset The position in the Buffer to start writing at.

length The maximum number of byte of data to write.

Exceptions:

IllegalStateException if in the end state.

IndexOutOfBoundsException if the offset + length > size of the buffer.

DataFormatException *(p. 1239)* if the compressed data format is invalid.

6.320.3.10 int decaf::util::zip::Inflater::inflate (unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Uncompresses bytes into specified buffer. Returns actual number of bytes uncompressed. A return value of 0 indicates that **needsInput()** (p. 1682) or **needsDictionary()** (p. 1682) should be called in order to determine if more input data or a preset dictionary is required. In the latter case, **getAdler()** (p. 1680) can be used to get the Adler-32 value of the dictionary required.

Parameters:

buffer The Buffer to write the compressed data to.

size The size of the buffer passed in.

offset The position in the Buffer to start writing at.

length The maximum number of byte of data to write.

Exceptions:

NullPointerException if buffer is NULL.

IllegalStateException if in the end state.

IndexOutOfBoundsException if the offset + length > size of the buffer.

DataFormatException *(p. 1239)* if the compressed data format is invalid.

6.320.3.11 bool decaf::util::zip::Inflater::needsDictionary () const

Returns:

true if a preset dictionary is needed for decompression.

6.320.3.12 bool decaf::util::zip::Inflater::needsInput () const

Returns:

true if the input data buffer is empty and **setInput()** (p. 1684) should be called in order to provide more input

6.320.3.13 void decaf::util::zip::Inflater::reset ()

Resets deflater so that a new set of input data can be processed. Keeps current decompression level and strategy settings.

Exceptions:

IllegalStateException if in the end state.

6.320.3.14 void decaf::util::zip::Inflater::setDictionary (const std::vector< unsigned char > & *buffer*)

Sets the preset dictionary to the given array of bytes. Should be called when **inflate()** (p. 1682) returns 0 and **needsDictionary()** (p. 1682) returns true indicating that a preset dictionary is required. The method **getAdler()** (p. 1680) can be used to get the Adler-32 value of the dictionary needed.

Parameters:

buffer The Buffer to read in for decompression.

Exceptions:

IllegalStateException if in the end state.

IllegalArgumentException if the given dictionary doesn't match the required dictionaries checksum value.

6.320.3.15 void decaf::util::zip::Inflater::setDictionary (const std::vector< unsigned char > & *buffer*, int *offset*, int *length*)

Sets the preset dictionary to the given array of bytes. Should be called when **inflate()** (p. 1682) returns 0 and **needsDictionary()** (p. 1682) returns true indicating that a preset dictionary is required. The method **getAdler()** (p. 1680) can be used to get the Adler-32 value of the dictionary needed.

Parameters:

buffer The Buffer to read in for decompression.

offset The position in the Buffer to start reading from.

length The number of bytes to read from the input buffer.

Exceptions:

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

IllegalArgumentException if the given dictionary doesn't match thre required dictionaries checksum value.

6.320.3.16 void decaf::util::zip::Inflater::setDictionary (const unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Sets the preset dictionary to the given array of bytes. Should be called when **inflate()** (p. 1682) returns 0 and **needsDictionary()** (p. 1682) returns true indicating that a preset dictionary is required. The method **getAdler()** (p. 1680) can be used to get the Adler-32 value of the dictionary needed.

Parameters:

buffer The Buffer to read in for decompression.

size The size of the buffer passed in.

offset The position in the Buffer to start reading from.

length The number of bytes to read from the input buffer.

Exceptions:

NullPointerException if buffer is NULL.

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

IllegalArgumentException if the given dictionary doesn't match thre required dictionaries checksum value.

6.320.3.17 void decaf::util::zip::Inflater::setInput (const std::vector< unsigned char > & *buffer*)

Sets input data for decompression. This should be called whenever **needsInput()** (p. 1682) returns true indicating that more input data is required.

Parameters:

buffer The Buffer to read in for decompression.

Exceptions:

IllegalStateException if in the end state.

6.320.3.18 void decaf::util::zip::Inflater::setInput (const std::vector< unsigned char > & *buffer*, int *offset*, int *length*)

Sets input data for decompression. This should be called whenever **needsInput()** (p. 1682) returns true indicating that more input data is required.

Parameters:

buffer The Buffer to read in for decompression.

offset The position in the Buffer to start reading from.

length The number of bytes to read from the input buffer.

Exceptions:

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

6.320.3.19 void decaf::util::zip::Inflater::setInput (const unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Sets input data for decompression. This should be called whenever **needsInput()** (p. 1682) returns true indicating that more input data is required.

Parameters:

buffer The Buffer to read in for decompression.

size The size of the buffer passed in.

offset The position in the Buffer to start reading from.

length The number of bytes to read from the input buffer.

Exceptions:

NullPointerException if buffer is NULL.

IndexOutOfBoundsException if the offset + length > size of the buffer.

IllegalStateException if in the end state.

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**Inflater.h**

6.321 decaf::util::zip::InflaterInputStream Class Reference

A FilterInputStream that decompresses data read from the wrapped InputStream instance.

`#include <src/main/decaf/util/zip/InflaterInputStream.h>`Inheritance diagram for decaf::util::zip::InflaterInputStream:

Public Member Functions

- **InflaterInputStream** (**decaf::io::InputStream** ∗**inputStream**, bool **own**=false)

  Create an instance of this class with a default inflater and buffer size.

- **InflaterInputStream** (**decaf::io::InputStream** ∗**inputStream**, **Inflater** ∗**inflater**, bool **own**=false, bool **ownInflater**=false)

  *Creates a new **InflaterInputStream** (p. 1686) with a user supplied **Inflater** (p. 1678) and a default buffer size.*

- **InflaterInputStream** (**decaf::io::InputStream** ∗**inputStream**, **Inflater** ∗**inflater**, int bufferSize, bool **own**=false, bool **ownInflater**=false)

  *Creates a new DeflateOutputStream with a user supplied **Inflater** (p. 1678) and specified buffer size.*

- virtual ∼**InflaterInputStream** ()
- virtual int **available** () const

  Indicates the number of bytes available.
  The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.
  The default implementation of this method returns zero.
  Returns:

  the number of bytes available on this input stream.
  Exceptions:

  ***IOException** (p. **1774**) if an I/O error occurs.*

- virtual void **close** ()

  *Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.*
  The default implementation of this method does nothing.
  Exceptions:

  ***IOException** (p. **1774**) if an I/O error occurs while closing the **InputStream** (p. 1694).*

- virtual long long **skip** (long long num)

  Skips over and discards n bytes of data from this input stream.
  *The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned. The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.*

Parameters:

num *The number of bytes to skip.*

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774) if an I/O error occurs.*
UnsupportedOperationException *if the concrete stream class does not support skipping bytes.*

- virtual void **mark** (int readLimit)

  Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.
  If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.
  Calling mark on a closed stream instance should have no effect.
  The default implementation of this method does nothing.

  Parameters:

  readLimit *The max bytes read before marked position is invalid.*

- virtual void **reset** ()

  Repositions this stream to the position at the time the mark method was last called on this input stream.
  If the method markSupported returns true, then: ∗ If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an ***IOException*** *(p. 1774) might be thrown. ∗ If such an* ***IOException*** *(p. 1774) is not thrown, then the stream is reset to a state such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.*
  If the method markSupported returns false, then: ∗ The call to reset may throw an ***IOException*** *(p. 1774). ∗ If an* ***IOException*** *(p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.*
  The default implementation of this method throws an ***IOException*** *(p. 1774).*

  Exceptions:

  IOException *(p. 1774) if an I/O error occurs.*

- virtual bool **markSupported** () const

  Determines if this input stream supports the mark and reset methods.
  Whether or not mark and reset are supported is an invariant property of a particular input stream instance.
  The default implementation of this method returns false.

  Returns:

  true if this stream instance supports marks

Protected Member Functions

- virtual void **fill** ()

  Fills the input buffer with the next chunk of data.

- virtual int **doReadByte** ()
- virtual int **doReadArrayBounded** (unsigned char *buffer, int size, int offset, int **length**)

Protected Attributes

- **Inflater** * **inflater**

  *The **Inflater** (p. 1678) instance to use.*

- std::vector< unsigned char > **buff**

  The buffer to hold chunks of data read from the stream before inflation.

- int **length**

  The amount of data currently stored in the input buffer.

- bool **ownInflater**
- bool **atEOF**

Static Protected Attributes

- static const int **DEFAULT_BUFFER_SIZE**

6.321.1 Detailed Description

A FilterInputStream that decompresses data read from the wrapped InputStream instance.

Since:

1.0

6.321.2 Constructor & Destructor Documentation

6.321.2.1 decaf::util::zip::InflaterInputStream::InflaterInputStream (decaf::io::InputStream * *inputStream*, bool *own* = `false`)

Create an instance of this class with a default inflater and buffer size.

Parameters:

inputStream The InputStream instance to wrap.

own Should this Filter take ownership of the InputStream pointer (defaults to false).

6.321.2.2 decaf::util::zip::InflaterInputStream::InflaterInputStream (decaf::io::InputStream * *inputStream*, Inflater * *inflater*, bool *own* = `false`, bool *ownInflater* = `false`)

Creates a new **InflaterInputStream** (p. 1686) with a user supplied **Inflater** (p. 1678) and a default buffer size. When the user supplied a **Inflater** (p. 1678) instance the **InflaterInputStream** (p. 1686) does not take ownership of the **Inflater** (p. 1678) pointer unless the ownInflater parameter is set to true, otherwise the caller is still responsible for deleting the **Inflater** (p. 1678).

Parameters:

inputStream The InputStream instance to wrap.

inflater The user supplied **Inflater** (p. 1678) to use for decompression. (

own Should this filter take ownership of the InputStream pointer (default is false).

ownInflater Should the filter take ownership of the passed **Inflater** (p. 1678) object (default is false).

Exceptions:

NullPointerException if the **Inflater** (p. 1678) given is NULL.

6.321.2.3 decaf::util::zip::InflaterInputStream::InflaterInputStream (decaf::io::InputStream * *inputStream*, Inflater * *inflater*, int *bufferSize*, bool *own* = `false`, bool *ownInflater* = `false`)

Creates a new DeflateOutputStream with a user supplied **Inflater** (p. 1678) and specified buffer size. When the user supplied a **Inflater** (p. 1678) instance the **InflaterInputStream** (p. 1686) does not take ownership of the **Inflater** (p. 1678) pointer unless the ownInflater parameter is set to true, otherwise the caller is still responsible for deleting the **Inflater** (p. 1678).

Parameters:

inputStream The InputStream instance to wrap.

inflater The user supplied **Inflater** (p. 1678) to use for decompression.

bufferSize The size of the input buffer.

own Should this filter take ownership of the InputStream pointer (default is false).

ownInflater Should the filter take ownership of the passed **Inflater** (p. 1678) object (default is false).

Exceptions:

NullPointerException if the **Inflater** (p. 1678) given is NULL.

IllegalArgumentException if the bufferSize value is zero.

6.321.2.4 virtual decaf::util::zip::InflaterInputStream::~InflaterInputStream () `[virtual]`

6.321.3 Member Function Documentation

6.321.3.1 virtual int decaf::util::zip::InflaterInputStream::available () const `[virtual]`

Indicates the number of bytes available.

The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Until EOF this method always returns 1, thereafter it always returns 0.

Reimplemented from **decaf::io::FilterInputStream** (p. 1510).

6.321.3.2 virtual void decaf::util::zip::InflaterInputStream::close () [virtual]

Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.

The default implementation of this method does nothing.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs while closing the **InputStream** (p. 1694).

Closes any resources associated with this **InflaterInputStream** (p. 1686).

Reimplemented from **decaf::io::FilterInputStream** (p. 1510).

6.321.3.3 virtual int decaf::util::zip::InflaterInputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.321.3.4 virtual int decaf::util::zip::InflaterInputStream::doReadByte () [protected, virtual]

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.321.3.5 virtual void decaf::util::zip::InflaterInputStream::fill () [protected, virtual]

Fills the input buffer with the next chunk of data.

Exceptions:

IOException if an I/O error occurs.

6.321.3.6 virtual void decaf::util::zip::InflaterInputStream::mark (int *readLimit*) [virtual]

Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.

If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.

Calling mark on a closed stream instance should have no effect.

The default implementation of this method does nothing.

Parameters:

readLimit The max bytes read before marked position is invalid.

Does nothing.

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.321.3.7 virtual bool decaf::util::zip::InflaterInputStream::markSupported () const [virtual]

Determines if this input stream supports the mark and reset methods.

Whether or not mark and reset are supported is an invariant property of a particular input stream instance.

The default implementation of this method returns false.

Returns:

true if this stream instance supports marks

Always returns false.

Reimplemented from **decaf::io::FilterInputStream** (p. 1512).

6.321.3.8 virtual void decaf::util::zip::InflaterInputStream::reset () [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream.

If the method markSupported returns true, then: ∗ If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an **IOException** (p. 1774) might be thrown. ∗ If such an **IOException** (p. 1774) is not thrown, then the stream is reset to a state such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.

If the method markSupported returns false, then: ∗ The call to reset may throw an **IOException** (p. 1774). ∗ If an **IOException** (p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.

The default implementation of this method throws an **IOException** (p. 1774).

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Always throws an IOException when called.

Reimplemented from **decaf::io::FilterInputStream** (p. 1512).

6.321.3.9 virtual long long decaf::util::zip::InflaterInputStream::skip (long long *num*) [virtual]

Skips over and discards n bytes of data from this input stream.

The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

Skips the specified amount of uncompressed input data.

Reimplemented from **decaf::io::FilterInputStream** (p. 1513).

6.321.4 Field Documentation

6.321.4.1 bool decaf::util::zip::InflaterInputStream::atEOF [protected]

6.321.4.2 std::vector<unsigned char> decaf::util::zip::InflaterInputStream::buff [protected]

The buffer to hold chunks of data read from the stream before inflation.

6.321.4.3 const int decaf::util::zip::InflaterInputStream::DEFAULT_BUFFER_SIZE [static, protected]

6.321.4.4 Inflater* decaf::util::zip::InflaterInputStream::inflater [protected]

The **Inflater** (p. 1678) instance to use.

6.321.4.5 int decaf::util::zip::InflaterInputStream::length [protected]

The amount of data currently stored in the input buffer.

6.321.4.6 bool decaf::util::zip::InflaterInputStream::ownInflater [protected]

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**InflaterInputStream.h**

6.322 decaf::io::InputStream Class Reference

A base class that must be implemented by all classes wishing to provide a class that reads in a stream of bytes.

`#include <src/main/decaf/io/InputStream.h>`Inheritance diagram for decaf::io::InputStream:

Public Member Functions

- **InputStream** ()
- virtual ~**InputStream** ()
- virtual void **close** ()

  *Closes the **InputStream*** (p. *1694*) *freeing any resources that might have been acquired during the lifetime of this stream.*

- virtual void **mark** (int readLimit)

  Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.

- virtual void **reset** ()

  Repositions this stream to the position at the time the mark method was last called on this input stream.

- virtual bool **markSupported** () const

  Determines if this input stream supports the mark and reset methods.

- virtual int **available** () const

  Indicates the number of bytes available.

- virtual int **read** ()

  Reads a single byte from the buffer.

- virtual int **read** (unsigned char *buffer, int size)

  Reads up to size bytes of data from the input stream into an array of bytes.

- virtual int **read** (unsigned char *buffer, int size, int offset, int length)

  Reads up to length bytes of data from the input stream into an array of bytes.

- virtual long long **skip** (long long num)

  Skips over and discards n bytes of data from this input stream.

- virtual std::string **toString** () const

  Output a String representation of this object.

- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

Protected Member Functions

- virtual int **doReadByte** ()=0
- virtual int **doReadArray** (unsigned char *buffer, int size)
- virtual int **doReadArrayBounded** (unsigned char *buffer, int size, int offset, int length)

6.322.1 Detailed Description

A base class that must be implemented by all classes wishing to provide a class that reads in a stream of bytes.

Since:

1.0

6.322.2 Constructor & Destructor Documentation

6.322.2.1 decaf::io::InputStream::InputStream ()

6.322.2.2 virtual decaf::io::InputStream::~InputStream () [virtual]

6.322.3 Member Function Documentation

6.322.3.1 virtual int decaf::io::InputStream::available () const [inline, virtual]

Indicates the number of bytes available. The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented in **decaf::internal::io::StandardInputStream** (p. 2832), **decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream** (p. 2305), **decaf::internal::net::tcp::TcpSocketInputStream** (p. 2985), **decaf::io::BlockingByteArrayInputStream** (p. 681), **decaf::io::BufferedInputStream** (p. 737), **decaf::io::ByteArrayInputStream** (p. 820), **decaf::io::FilterInputStream** (p. 1510), **decaf::io::PushbackInputStream** (p. 2495), and **decaf::util::zip::InflaterInputStream** (p. 1689).

6.322.3.2 virtual void decaf::io::InputStream::close () [virtual]

Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream. The default implementation of this method does nothing.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs while closing the **InputStream** (p. 1694).

Implements **decaf::io::Closeable** (p. 961).

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream** (p. 2305), **decaf::internal::net::tcp::TcpSocketInputStream** (p. 2985), **decaf::io::BlockingByteArrayInputStream** (p. 682), **decaf::io::BufferedInputStream** (p. 738), **decaf::io::FilterInputStream** (p. 1510), and **decaf::util::zip::InflaterInputStream** (p. 1690).

6.322.3.3 virtual int decaf::io::InputStream::doReadArray (unsigned char * *buffer*, int *size*) [protected, virtual]

Reimplemented in **decaf::io::FilterInputStream** (p. 1511).

6.322.3.4 virtual int decaf::io::InputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented in **activemq::io::LoggingInputStream** (p. 1935), **decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream** (p. 2306), **decaf::internal::net::tcp::TcpSocketInputStream** (p. 2986), **decaf::io::BlockingByteArrayInputStream** (p. 682), **decaf::io::BufferedInputStream** (p. 738), **decaf::io::ByteArrayInputStream** (p. 821), **decaf::io::FilterInputStream** (p. 1511), **decaf::io::PushbackInputStream** (p. 2495), **decaf::util::zip::CheckedInputStream** (p. 946), and **decaf::util::zip::InflaterInputStream** (p. 1690).

6.322.3.5 virtual int decaf::io::InputStream::doReadByte () [protected, pure virtual]

Implemented in **activemq::io::LoggingInputStream** (p. 1935), **decaf::internal::io::StandardInputStream** (p. 2833), **decaf::internal::net::ssl::openssl::OpenSSLSocketInput** (p. 2306), **decaf::internal::net::tcp::TcpSocketInputStream** (p. 2986), **decaf::io::BlockingByteArrayInputStream** (p. 682), **decaf::io::BufferedInputStream** (p. 738), **decaf::io::ByteArrayInputStream** (p. 821), **decaf::io::FilterInputStream** (p. 1511), **decaf::io::PushbackInputStream** (p. 2495), **decaf::util::zip::CheckedInputStream** (p. 946), and **decaf::util::zip::InflaterInputStream** (p. 1690).

6.322.3.6 virtual void decaf::io::InputStream::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

6.322.3.7 virtual void decaf::io::InputStream::mark (int *readLimit*) [virtual]

Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes. If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.

Calling mark on a closed stream instance should have no effect.

The default implementation of this method does nothing.

Parameters:

readLimit The max bytes read before marked position is invalid.

Reimplemented in **decaf::io::BufferedInputStream** (p. 738), **decaf::io::ByteArrayInputStream** (p. 821), **decaf::io::FilterInputStream** (p. 1511), **decaf::io::PushbackInputStream** (p. 2496), and **decaf::util::zip::InflaterInputStream** (p. 1690).

6.322.3.8 virtual bool decaf::io::InputStream::markSupported () const [inline, virtual]

Determines if this input stream supports the mark and reset methods. Whether or not mark and reset are supported is an invariant property of a particular input stream instance.

The default implementation of this method returns false.

Returns:

true if this stream instance supports marks

Reimplemented in **decaf::io::BufferedInputStream** (p. 738), **decaf::io::ByteArrayInputStream** (p. 821), **decaf::io::FilterInputStream** (p. 1512), **decaf::io::PushbackInputStream** (p. 2496), and **decaf::util::zip::InflaterInputStream** (p. 1691).

6.322.3.9 virtual void decaf::io::InputStream::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.322.3.10 virtual void decaf::io::InputStream::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.322.3.11 virtual int decaf::io::InputStream::read (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Reads up to length bytes of data from the input stream into an array of bytes. An attempt is made to read as many as length bytes, but a smaller number may be read. The number of bytes actually read is returned as an integer.

This method blocks until input data is available, end of file is detected, or an exception is thrown.

If length is zero, then no bytes are read and 0 is returned; otherwise, there is an attempt to read at least one byte. If no byte is available because the stream is at end of file, the value -1 is returned; otherwise, at least one byte is read and stored into b.

The first byte read is stored into element b[off], the next one into b[off+1], and so on. The number of bytes read is, at most, equal to length. Let k be the number of bytes actually read; these bytes will be stored in elements b[off] through b[off+k-1], leaving elements b[offset+k] through b[offset+length-1] unaffected.

In every case, elements b[0] through b[offset] and elements b[offset+length] through b[b.length-1] are unaffected.

This method called the protected virtual method doReadArrayBounded which simply calls the method **doReadByte()** (p. 1697) repeatedly. If the first such call results in an **IOException**

(p. 1774), that exception is returned. If any subsequent call to **doReadByte()** (p. 1697) results in a **IOException** (p. 1774), the exception is caught and treated as if it were end of file; the bytes read up to that point are stored into the buffer and the number of bytes read before the exception occurred is returned. The default implementation of this method blocks until the requested amount of input data has been read, end of file is detected, or an exception is thrown. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

buffer The target buffer to write the read in data to.

size The size in bytes of the target buffer.

offset The position in the buffer to start inserting the read in data.

length The maximum number of bytes that should be read into buffer.

Returns:

The number of bytes read or -1 if EOF is detected

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

NullPointerException if buffer passed is NULL.

IndexOutOfBoundsException if length > size - offset.

6.322.3.12 virtual int decaf::io::InputStream::read (unsigned char * *buffer*, int *size*) [virtual]

Reads up to size bytes of data from the input stream into an array of bytes. An attempt is made to read as many as size bytes, but a smaller number may be read. The number of bytes actually read is returned as an integer.

This method blocks until input data is available, end of file is detected, or an exception is thrown.

If size is zero, then no bytes are read and 0 is returned; otherwise, there is an attempt to read at least one byte. If no byte is available because the stream is at end of file, the value -1 is returned; otherwise, at least one byte is read and stored into b.

This method called the protected virtual method doReadArray which by default is the same as calling read(buffer, size, 0, size). Subclasses can customize the behavior of this method by overriding the doReadArray method to provide a better performing read operation.

Parameters:

buffer The target buffer to write the read in data to.

size The size in bytes of the target buffer.

Returns:

The number of bytes read or -1 if EOF is detected

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

NullPointerException if buffer passed is NULL.

6.322.3.13 virtual int decaf::io::InputStream::read () [virtual]

Reads a single byte from the buffer. The value byte is returned as an int in the range 0 to 255. If no byte is available because the end of the stream has been reached, the value -1 is returned. This method blocks until input data is available, the end of the stream is detected, or an exception is thrown.

The default implementation of this method calls the **internal** (p. 96) virtual method doReadByte which is a pure virtual method and must be overridden by all subclasses.

Returns:

The next byte or -1 if the end of stream is reached.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

6.322.3.14 virtual void decaf::io::InputStream::reset () [virtual]

Repositions this stream to the position at the time the mark method was last called on this input stream. If the method markSupported returns true, then: ∗ If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an **IOException** (p. 1774) might be thrown. ∗ If such an **IOException** (p. 1774) is not thrown, then the stream is reset to a state such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.

If the method markSupported returns false, then: ∗ The call to reset may throw an **IOException** (p. 1774). ∗ If an **IOException** (p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.

The default implementation of this method throws an **IOException** (p. 1774).

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented in **decaf::io::BufferedInputStream** (p. 739), **decaf::io::ByteArrayInputStream** (p. 821), **decaf::io::FilterInputStream** (p. 1512), **decaf::io::PushbackInputStream** (p. 2496), and **decaf::util::zip::InflaterInputStream** (p. 1691).

6.322.3.15 virtual long long decaf::io::InputStream::skip (long long *num*) [virtual]

Skips over and discards n bytes of data from this input stream. The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream** (p. 2306), **decaf::internal::net::tcp::TcpSocketInputStream** (p. 2986), **decaf::io::BlockingByteArrayInputStream** (p. 682), **decaf::io::BufferedInputStream** (p. 739), **decaf::io::ByteArrayInputStream** (p. 823), **decaf::io::FilterInputStream** (p. 1513), **decaf::io::PushbackInputStream** (p. 2497), **decaf::util::zip::CheckedInputStream** (p. 946), and **decaf::util::zip::InflaterInputStream** (p. 1692).

6.322.3.16 virtual std::string decaf::io::InputStream::toString () const [virtual]

Output a String representation of this object. The default version of this method just prints the Class Name.

Returns:

a string representation of the object.

6.322.3.17 virtual bool decaf::io::InputStream::tryLock () [inline, virtual]

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

6.322.3.18 virtual void decaf::io::InputStream::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

6.322.3.19 virtual void decaf::io::InputStream::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.322.3.20 virtual void decaf::io::InputStream::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.322.3.21 virtual void decaf::io::InputStream::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**InputStream.h**

6.323 decaf::io::InputStreamReader Class Reference

An **InputStreamReader** (p. 1704) is a bridge from byte streams to character streams.

`#include <src/main/decaf/io/InputStreamReader.h>`Inheritance diagram for decaf::io::InputStreamReader:

Public Member Functions

- **InputStreamReader** (**InputStream** *stream, bool own=false)

  *Create a new **InputStreamReader** (p. 1704) that wraps the given **InputStream** (p. 1694).*

- virtual ~**InputStreamReader** ()
- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual bool **ready** () const

  Tells whether this stream is ready to be read.

Protected Member Functions

- virtual int **doReadArrayBounded** (char *buffer, int size, int offset, int length)

  Override this method to customize the functionality of the method read(unsigned char buffer, int size, int offset, int length).*

- virtual void **checkClosed** () const

6.323.1 Detailed Description

An **InputStreamReader** (p. 1704) is a bridge from byte streams to character streams. For top efficiency, consider wrapping an **InputStreamReader** (p. 1704) within a BufferedReader. For example:

BufferedReader* in = new BufferedReader(new **InputStreamReader** (p. 1704)(System.in, false), true);

See also:

OutputStreamWriter (p. 2340)

Since:

1.0

6.323.2 Constructor & Destructor Documentation

6.323.2.1 decaf::io::InputStreamReader::InputStreamReader (InputStream * *stream*, bool *own* = `false`)

Create a new **InputStreamReader** (p. 1704) that wraps the given **InputStream** (p. 1694).

Parameters:

stream The **InputStream** (p. 1694) to read from. (cannot be null).

own Does this object own the passed **InputStream** (p. 1694) (defaults to false).

Exceptions:

NullPointerException if the passed **InputStream** (p. 1694) is NULL.

6.323.2.2 virtual decaf::io::InputStreamReader::~InputStreamReader () [virtual]

6.323.3 Member Function Documentation

6.323.3.1 virtual void decaf::io::InputStreamReader::checkClosed () const [protected, virtual]

6.323.3.2 virtual void decaf::io::InputStreamReader::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

IOException *(p. 1774)* if an error occurs while closing.

Implements **decaf::io::Closeable** (p. 961).

6.323.3.3 virtual int decaf::io::InputStreamReader::doReadArrayBounded (char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Override this method to customize the functionality of the method read(unsigned char* buffer, int size, int offset, int length). All subclasses must override this method to provide the basic **Reader** (p. 2514) functionality.

Implements **decaf::io::Reader** (p. 2515).

6.323.3.4 virtual bool decaf::io::InputStreamReader::ready () const [virtual]

Tells whether this stream is ready to be read.

Returns:

True if the next **read()** (p. 2517) is guaranteed not to block for input, false otherwise. Note that returning false does not guarantee that the next read will block.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented from **decaf::io::Reader** (p. 2518).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**InputStreamReader.h**

6.324 decaf::internal::nio::IntArrayBuffer Class Reference

`#include <src/main/decaf/internal/nio/IntArrayBuffer.h>`Inheritance diagram for decaf::internal::nio::IntArrayBuffer:

Public Member Functions

- **IntArrayBuffer** (int size, bool readOnly=false)

  *Creates a **IntArrayBuffer** (p. 1706) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

- **IntArrayBuffer** (int *array, int size, int offset, int length, bool readOnly=false)

  *Creates a **IntArrayBuffer** (p. 1706) object that wraps the given array.*

- **IntArrayBuffer** (const **decaf::lang::Pointer< ByteArrayAdapter >** &array, int offset, int length, bool readOnly=false)

  Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset.

- **IntArrayBuffer** (const **IntArrayBuffer** &other)

  *Create a **IntArrayBuffer** (p. 1706) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.*

- virtual ~**IntArrayBuffer** ()
- virtual int * **array** ()

  Returns the int array that backs this buffer (optional operation).
  Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  *the array that backs this **Buffer** (p. 729).*

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual int **arrayOffset** ()

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  The offset into the backing array where index zero starts.

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual IntBuffer * **asReadOnlyBuffer** () const

Creates a new, read-only int buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.
If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
Returns:

The new, read-only int buffer which the caller then owns.

- virtual IntBuffer & **compact** ()

Compacts this buffer.
*The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.*
The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.
Returns:

*a reference to this **IntBuffer** (p. 1715)*
Exceptions:

***ReadOnlyBufferException** (p. 2520) if this buffer is read-only.*

- virtual IntBuffer * **duplicate** ()

Creates a new int buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.
Returns:

*a new int **Buffer** (p. 729) which the caller owns.*

- virtual int **get** ()

Relative get method.
Reads the value at this buffer's current position, and then increments the position.
Returns:

the int at the current position.
Exceptions:

***BufferUnderflowException** (p. 757) if there no more data to return.*

- virtual int **get** (int index) const

Absolute get method.
Reads the value at the given index.
Parameters:

***index** The index in the **Buffer** (p. 729) where the int is to be read.*
Returns:

the int that is located at the given index.

Exceptions:

IndexOutOfBoundsException *if index is not smaller than the buffer's limit, or index is negative.*

- virtual bool **hasArray** () const

  Tells whether or not this buffer is backed by an accessible int array.
  If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.
  Returns:

  true if, and only if, this buffer is backed by an array and is not read-only.

- virtual bool **isReadOnly** () const

  Tells whether or not this buffer is read-only.
  Returns:

  true if, and only if, this buffer is read-only.

- virtual IntBuffer & **put** (int value)

  Writes the given integer into this buffer at the current position, and then increments the position.
  Parameters:

  value *The integer value to be written.*
  Returns:

  a reference to this buffer.
  Exceptions:

  BufferOverflowException *(p. 754) if this buffer's current position is not smaller than its limit.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual IntBuffer & **put** (int index, int value)

  Writes the given ints into this buffer at the given index.
  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data.*
  value *The ints to write.*
  Returns:

  a reference to this buffer.
  Exceptions:

  IndexOutOfBoundsException *- If index greater than the buffer's limit minus the size of the type being written, or the index is negative.*
  ReadOnlyBufferException *(p. 2520) - If this buffer is read-only.*

- virtual IntBuffer * **slice** () const

  Creates a new ***IntBuffer*** *(p. 1715) whose content is a shared subsequence of this buffer's content. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.*
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the newly create ***IntBuffer*** *(p. 1715) which the caller owns.*

Protected Member Functions

- virtual void **setReadOnly** (bool value)

  *Sets this **IntArrayBuffer** (p. 1706) as Read-Only.*

6.324.1 Constructor & Destructor Documentation

6.324.1.1 decaf::internal::nio::IntArrayBuffer::IntArrayBuffer (int *size*, bool *readOnly* = `false`)

Creates a **IntArrayBuffer** (p. 1706) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

size The size of the array, this is the limit we read and write to.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

IllegalArguementException if the capacity value is negative.

6.324.1.2 decaf::internal::nio::IntArrayBuffer::IntArrayBuffer (int * *array*, int *size*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a **IntArrayBuffer** (p. 1706) object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The actual array to wrap.

size The size of the given array.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if offset is greater than array capacity.

6.324.1.3 decaf::internal::nio::IntArrayBuffer::IntArrayBuffer (const decaf::lang::Pointer< ByteArrayAdapter > & *array*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset. The capacity and limit of the new **IntArrayBuffer** (p. 1706) will be that of the remaining capacity of the passed buffer.

Parameters:

array The ByteArrayAdapter to wrap.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if array is NULL

IndexOutOfBoundsException if offset + length is greater than array size.

6.324.1.4 decaf::internal::nio::IntArrayBuffer::IntArrayBuffer (const IntArrayBuffer & *other*)

Create a **IntArrayBuffer** (p. 1706) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.

Parameters:

other The **IntArrayBuffer** (p. 1706) this one is to mirror.

6.324.1.5 virtual decaf::internal::nio::IntArrayBuffer::~IntArrayBuffer () [virtual]

6.324.2 Member Function Documentation

6.324.2.1 virtual int* decaf::internal::nio::IntArrayBuffer::array () [virtual]

Returns the int array that backs this buffer (optional operation).

Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::IntBuffer** (p. 1717).

6.324.2.2 virtual int decaf::internal::nio::IntArrayBuffer::arrayOffset () [virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::IntBuffer** (p. 1718).

6.324.2.3 virtual IntBuffer* decaf::internal::nio::IntArrayBuffer::asReadOnlyBuffer () const [virtual]

Creates a new, read-only int buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only int buffer which the caller then owns.

Implements **decaf::nio::IntBuffer** (p. 1718).

6.324.2.4 virtual IntBuffer& decaf::internal::nio::IntArrayBuffer::compact () [virtual]

Compacts this buffer.

The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **IntBuffer** (p. 1715)

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::IntBuffer** (p. 1718).

6.324.2.5 virtual IntBuffer* decaf::internal::nio::IntArrayBuffer::duplicate () [virtual]

Creates a new int buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new int **Buffer** (p. 729) which the caller owns.

Implements **decaf::nio::IntBuffer** (p. 1719).

6.324.2.6 virtual int decaf::internal::nio::IntArrayBuffer::get (int *index*) const [virtual]

Absolute get method.

Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the int is to be read.

Returns:

the int that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implements **decaf::nio::IntBuffer** (p. 1720).

6.324.2.7 virtual int decaf::internal::nio::IntArrayBuffer::get () [virtual]

Relative get method.

Reads the value at this buffer's current position, and then increments the position.

Returns:

the int at the current position.

Exceptions:

BufferUnderflowException *(p. 757)* if there no more data to return.

Implements **decaf::nio::IntBuffer** (p. 1720).

6.324.2.8 virtual bool decaf::internal::nio::IntArrayBuffer::hasArray () const [inline, virtual]

Tells whether or not this buffer is backed by an accessible int array.

If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only.

Implements **decaf::nio::IntBuffer** (p. 1721).

6.324.2.9 virtual bool decaf::internal::nio::IntArrayBuffer::isReadOnly () const [inline, virtual]

Tells whether or not this buffer is read-only.

Returns:

true if, and only if, this buffer is read-only.

Implements **decaf::nio::Buffer** (p. 732).

6.324.2.10 virtual IntBuffer& decaf::internal::nio::IntArrayBuffer::put (int *index*, int *value*) [virtual]

Writes the given ints into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The ints to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException - If index greater than the buffer's limit minus the size of the type being written, or the index is negative.

ReadOnlyBufferException *(p. 2520)* - If this buffer is read-only.

Implements **decaf::nio::IntBuffer** (p. 1721).

6.324.2.11 virtual IntBuffer& decaf::internal::nio::IntArrayBuffer::put (int *value*) [virtual]

Writes the given integer into this buffer at the current position, and then increments the position.

Parameters:

value The integer value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. ***754****)* if this buffer's current position is not smaller than its limit.

ReadOnlyBufferException *(*p. ***2520****)* if this buffer is read-only.

Implements **decaf::nio::IntBuffer** (p. 1721).

6.324.2.12 virtual void decaf::internal::nio::IntArrayBuffer::setReadOnly (bool *value*) [inline, protected, virtual]

Sets this **IntArrayBuffer** (p. 1706) as Read-Only.

Parameters:

value Boolean value, true if this buffer is to be read-only, false otherwise.

6.324.2.13 virtual IntBuffer* decaf::internal::nio::IntArrayBuffer::slice () const [virtual]

Creates a new **IntBuffer** (p. 1715) whose content is a shared subsequence of this buffer's content.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **IntBuffer** (p. 1715) which the caller owns.

Implements **decaf::nio::IntBuffer** (p. 1723).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/nio/**IntArrayBuffer.h**

6.325 decaf::nio::IntBuffer Class Reference

This class defines four categories of operations upon int buffers:.

`#include <src/main/decaf/nio/IntBuffer.h>`Inheritance diagram for decaf::nio::IntBuffer:

Public Member Functions

- virtual ~**IntBuffer** ()
- virtual std::string **toString** () const
- virtual int * **array** ()=0

  Returns the int array that backs this buffer (optional operation).

- virtual int **arrayOffset** ()=0

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

- virtual **IntBuffer** * **asReadOnlyBuffer** () const =0

  Creates a new, read-only int buffer that shares this buffer's content.

- virtual **IntBuffer** & **compact** ()=0

  Compacts this buffer.

- virtual **IntBuffer** * **duplicate** ()=0

  Creates a new int buffer that shares this buffer's content.

- virtual int **get** ()=0

  Relative get method.

- virtual int **get** (int index) const =0

  Absolute get method.

- **IntBuffer** & **get** (std::vector< int > buffer)

  Relative bulk get method.

- **IntBuffer** & **get** (int *buffer, int size, int offset, int length)

  Relative bulk get method.

- virtual bool **hasArray** () const =0

  Tells whether or not this buffer is backed by an accessible int array.

- **IntBuffer** & **put** (**IntBuffer** &src)

  This method transfers the ints remaining in the given source buffer into this buffer.

- **IntBuffer** & **put** (const int *buffer, int size, int offset, int length)

  This method transfers ints into this buffer from the given source array.

- **IntBuffer** & **put** (std::vector< int > &buffer)

This method transfers the entire content of the given source ints array into this buffer.

- virtual **IntBuffer** & **put** (int value)=0

  Writes the given integer into this buffer at the current position, and then increments the position.

- virtual **IntBuffer** & **put** (int index, int value)=0

  Writes the given ints into this buffer at the given index.

- virtual **IntBuffer** * **slice** () const =0

  *Creates a new **IntBuffer** (p. 1715) whose content is a shared subsequence of this buffer's content.*

- virtual int **compareTo** (const **IntBuffer** &value) const

- virtual bool **equals** (const **IntBuffer** &value) const

- virtual bool **operator==** (const **IntBuffer** &value) const

- virtual bool **operator<** (const **IntBuffer** &value) const

Static Public Member Functions

- static **IntBuffer** * **allocate** (int capacity)

  Allocates a new Double buffer.

- static **IntBuffer** * **wrap** (int *array, int size, int offset, int length)

  *Wraps the passed buffer with a new **IntBuffer** (p. 1715).*

- static **IntBuffer** * **wrap** (std::vector< int > &buffer)

  *Wraps the passed STL int Vector in a **IntBuffer** (p. 1715).*

Protected Member Functions

- **IntBuffer** (int capacity)

  *Creates a **IntBuffer** (p. 1715) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

6.325.1 Detailed Description

This class defines four categories of operations upon int buffers:. o Absolute and relative get and put methods that read and write single ints; o Relative bulk get methods that transfer contiguous sequences of ints from this buffer into an array; and o Relative bulk put methods that transfer contiguous sequences of ints from a int array or some other int buffer into this buffer o Methods for compacting, duplicating, and slicing a int buffer.

Double buffers can be created either by allocation, which allocates space for the buffer's content, by wrapping an existing int array into a buffer, or by creating a view of an existing byte buffer

Methods in this class that do not otherwise have a value to return are specified to return the buffer upon which they are invoked. This allows method invocations to be chained.

6.325.2 Constructor & Destructor Documentation

6.325.2.1 decaf::nio::IntBuffer::IntBuffer (int *capacity*) [protected]

Creates a **IntBuffer** (p. 1715) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

capacity The size and limit of the **Buffer** (p. 729) in integers.

Exceptions:

IllegalArguementException if capacity is negative.

6.325.2.2 virtual decaf::nio::IntBuffer::~IntBuffer () [inline, virtual]

6.325.3 Member Function Documentation

6.325.3.1 static IntBuffer* decaf::nio::IntBuffer::allocate (int *capacity*) [static]

Allocates a new Double buffer. The new buffer's position will be zero, its limit will be its capacity, and its mark will be undefined. It will have a backing array, and its array offset will be zero.

Parameters:

capacity The size of the Double buffer in integers.

Returns:

the **IntBuffer** (p. 1715) that was allocated, caller owns.

6.325.3.2 virtual int* decaf::nio::IntBuffer::array () [pure virtual]

Returns the int array that backs this buffer (optional operation). Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1710).

6.325.3.3 virtual int decaf::nio::IntBuffer::arrayOffset () [pure virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation). Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1710).

6.325.3.4 virtual IntBuffer* decaf::nio::IntBuffer::asReadOnlyBuffer () const [pure virtual]

Creates a new, read-only int buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only int buffer which the caller then owns.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1711).

6.325.3.5 virtual IntBuffer& decaf::nio::IntBuffer::compact () [pure virtual]

Compacts this buffer. The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **IntBuffer** (p. 1715)

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1711).

6.325.3.6 virtual int decaf::nio::IntBuffer::compareTo (const IntBuffer & *value*) const [virtual]

6.325.3.7 virtual IntBuffer* decaf::nio::IntBuffer::duplicate () [pure virtual]

Creates a new int buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new int **Buffer** (p. 729) which the caller owns.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1712).

6.325.3.8 virtual bool decaf::nio::IntBuffer::equals (const IntBuffer & *value*) const [virtual]

6.325.3.9 IntBuffer& decaf::nio::IntBuffer::get (int * *buffer*, int *size*, int *offset*, int *length*)

Relative bulk get method. This method transfers ints from this buffer into the given destination array. If there are fewer ints remaining in the buffer than are required to satisfy the request, that is, if length > **remaining()** (p. 734), then no bytes are transferred and a **BufferUnderflowException** (p. 757) is thrown.

Otherwise, this method copies length ints from this buffer into the given array, starting at the current position of this buffer and at the given offset in the array. The position of this buffer is then incremented by length.

Parameters:

buffer The pointer to an allocated buffer to fill.

size The size of the buffer that was passed in.

offset The position in the buffer to start filling.

length The amount of data to put in the passed buffer.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(p. 757)* if there are fewer than length ints remaining in this buffer.

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.325.3.10 IntBuffer& decaf::nio::IntBuffer::get (std::vector< int > *buffer*)

Relative bulk get method. This method transfers values from this buffer into the given destination vector. An invocation of this method of the form src.get(a) behaves in exactly the same way as the invocation. The vector must be sized to the amount of data that is to be read, that is to say, the caller should call buffer.resize(N) before calling this get method.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there are fewer than length ints remaining in this buffer.

6.325.3.11 virtual int decaf::nio::IntBuffer::get (int *index*) const [pure virtual]

Absolute get method. Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the int is to be read.

Returns:

the int that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1712).

6.325.3.12 virtual int decaf::nio::IntBuffer::get () [pure virtual]

Relative get method. Reads the value at this buffer's current position, and then increments the position.

Returns:

the int at the current position.

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there no more data to return.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1712).

6.325.3.13 virtual bool decaf::nio::IntBuffer::hasArray () const [pure virtual]

Tells whether or not this buffer is backed by an accessible int array. If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1713).

6.325.3.14 virtual bool decaf::nio::IntBuffer::operator< (const IntBuffer & *value*) const [virtual]

6.325.3.15 virtual bool decaf::nio::IntBuffer::operator== (const IntBuffer & *value*) const [virtual]

6.325.3.16 virtual IntBuffer& decaf::nio::IntBuffer::put (int *index*, int *value*) [pure virtual]

Writes the given ints into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The ints to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException - If index greater than the buffer's limit minus the size of the type being written, or the index is negative.

ReadOnlyBufferException *(p. 2520)* - If this buffer is read-only.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1713).

6.325.3.17 virtual IntBuffer& decaf::nio::IntBuffer::put (int *value*) [pure virtual]

Writes the given integer into this buffer at the current position, and then increments the position.

Parameters:

value The integer value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if this buffer's current position is not smaller than its limit.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1713).

6.325.3.18 IntBuffer& decaf::nio::IntBuffer::put (std::vector< int > & *buffer*)

This method transfers the entire content of the given source ints array into this buffer. This is the same as calling put(&buffer[0], 0, buffer.size().

Parameters:

buffer The buffer whose contents are copied to this **IntBuffer** (p. 1715).

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

6.325.3.19 IntBuffer& decaf::nio::IntBuffer::put (const int * *buffer*, int *size*, int *offset*, int *length*)

This method transfers ints into this buffer from the given source array. If there are more ints to be copied from the array than remain in this buffer, that is, if length > **remaining()** (p. 734), then no ints are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies length bytes from the given array into this buffer, starting at the given offset in the array and at the current position of this buffer. The position of this buffer is then incremented by length.

Parameters:

buffer The array from which integers are to be read.

size The size of the buffer passed.

offset The offset within the array of the first char to be read.

length The number of integers to be read from the given array.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.325.3.20 IntBuffer& decaf::nio::IntBuffer::put (IntBuffer & *src*)

This method transfers the ints remaining in the given source buffer into this buffer. If there are more ints remaining in the source buffer than in this buffer, that is, if src.remaining() > **remaining()** (p. 734), then no ints are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies n = src.remaining() ints from the given buffer into this buffer, starting at each buffer's current position. The positions of both buffers are then incremented by n.

Parameters:

src The buffer to take ints from an place in this one.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. *754)* if there is insufficient space in this buffer for the remaining ints in the source buffer.

IllegalArgumentException if the source buffer is this buffer.

ReadOnlyBufferException *(*p. *2520)* if this buffer is read-only.

6.325.3.21 virtual IntBuffer* decaf::nio::IntBuffer::slice () const [pure virtual]

Creates a new **IntBuffer** (p. 1715) whose content is a shared subsequence of this buffer's content. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **IntBuffer** (p. 1715) which the caller owns.

Implemented in **decaf::internal::nio::IntArrayBuffer** (p. 1714).

6.325.3.22 virtual std::string decaf::nio::IntBuffer::toString () const [virtual]

Returns:

a std::string describing this object

6.325.3.23 static IntBuffer* decaf::nio::IntBuffer::wrap (std::vector< int > & *buffer*) [static]

Wraps the passed STL int Vector in a **IntBuffer** (p. 1715). The new buffer will be backed by the given int array; modifications to the buffer will cause the array to be modified and vice versa. The

new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new **IntBuffer** (p. 1715) that is backed by buffer, caller owns.

6.325.3.24 static IntBuffer* decaf::nio::IntBuffer::wrap (int * *array*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new **IntBuffer** (p. 1715). The new buffer will be backed by the given int array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

array The array that will back the new buffer.

size The size of the passed in array.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new **IntBuffer** (p. 1715) that is backed by buffer, caller owns.

Exceptions:

NullPointerException if the array pointer is NULL.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**IntBuffer.h**

6.326 decaf::lang::Integer Class Reference

`#include <src/main/decaf/lang/Integer.h>`Inheritance diagram for decaf::lang::Integer:

Public Member Functions

- **Integer** (int value)
- **Integer** (const std::string &value)

  *Constructs a new **Integer** (p. 1725) and attempts to convert the given string to an int value, assigning it to the new object is successful or throwing a NumberFormatException if the string is not a properly formatted int.*

- virtual ~**Integer** ()
- virtual int **compareTo** (const **Integer** &i) const

  *Compares this **Integer** (p. 1725) instance with another.*

- bool **equals** (const **Integer** &i) const
- virtual bool **operator==** (const **Integer** &i) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const **Integer** &i) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- virtual int **compareTo** (const int &i) const

  *Compares this **Integer** (p. 1725) instance with another.*

- bool **equals** (const int &i) const
- virtual bool **operator==** (const int &i) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const int &i) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- std::string **toString** () const
- virtual double **doubleValue** () const

  Answers the double value which the receiver represents.

- virtual float **floatValue** () const

  Answers the float value which the receiver represents.

- virtual unsigned char **byteValue** () const

  Answers the byte value which the receiver represents.

- virtual short **shortValue** () const

  Answers the short value which the receiver represents.

- virtual int **intValue** () const

  Answers the int value which the receiver represents.

- virtual long long **longValue** () const

  Answers the long value which the receiver represents.

Static Public Member Functions

- static **Integer decode** (const std::string &value)

  *Decodes a **String** (p. 2919) into a **Integer** (p. 1725).*

- static int **reverseBytes** (int value)

  Returns the value obtained by reversing the order of the bytes in the two's complement representation of the specified int value.

- static int **reverse** (int value)

  Returns the value obtained by reversing the order of the bits in the two's complement binary representation of the specified int value.

- static int **parseInt** (const std::string &s, int radix)

  Parses the string argument as a signed int in the radix specified by the second argument.

- static int **parseInt** (const std::string &s)

  Parses the string argument as a signed decimal int.

- static **Integer valueOf** (int value)

  *Returns a **Integer** (p. 1725) instance representing the specified int value.*

- static **Integer valueOf** (const std::string &value)

  *Returns a **Integer** (p. 1725) object holding the value given by the specified std::string.*

- static **Integer valueOf** (const std::string &value, int radix)

  *Returns a **Integer** (p. 1725) object holding the value extracted from the specified std::string when parsed with the radix given by the second argument.*

- static int **bitCount** (int value)

  Returns the number of one-bits in the two's complement binary representation of the specified int value.

- static std::string **toString** (int value)

  *Converts the int to a **String** (p. 2919) representation.*

- static std::string **toString** (int value, int radix)

  Returns a string representation of the first argument in the radix specified by the second argument.

- static std::string **toHexString** (int value)

  Returns a string representation of the integer argument as an unsigned integer in base 16.

- static std::string **toOctalString** (int value)

Returns a string representation of the integer argument as an unsigned integer in base 8.

- static std::string **toBinaryString** (int value)

  Returns a string representation of the integer argument as an unsigned integer in base 2.

- static int **highestOneBit** (int value)

  Returns an int value with at most a single one-bit, in the position of the highest-order ("leftmost") one-bit in the specified int value.

- static int **lowestOneBit** (int value)

  Returns an int value with at most a single one-bit, in the position of the lowest-order ("rightmost") one-bit in the specified int value.

- static int **numberOfLeadingZeros** (int value)

  Returns the number of zero bits preceding the highest-order ("leftmost") one-bit in the two's complement binary representation of the specified int value.

- static int **numberOfTrailingZeros** (int value)

  Returns the number of zero bits following the lowest-order ("rightmost") one-bit in the two's complement binary representation of the specified int value.

- static int **rotateLeft** (int value, int distance)

  Returns the value obtained by rotating the two's complement binary representation of the specified int value left by the specified number of bits.

- static int **rotateRight** (int value, int distance)

  Returns the value obtained by rotating the two's complement binary representation of the specified int value right by the specified number of bits.

- static int **signum** (int value)

  Returns the signum function of the specified int value.

Static Public Attributes

- static const int **SIZE**

  The size in bits of the primitive int type.

- static const int **MAX_VALUE**

  The maximum value that the primitive type can hold.

- static const int **MIN_VALUE**

  The minimum value that the primitive type can hold.

6.326.1 Constructor & Destructor Documentation

6.326.1.1 decaf::lang::Integer::Integer (int *value*)

Parameters:

value The primitive value to wrap in an `Integer` (p. 1725) instance.

6.326.1.2 decaf::lang::Integer::Integer (const std::string & *value*)

Constructs a new **Integer** (p. 1725) and attempts to convert the given string to an int value, assigning it to the new object is successful or throwing a NumberFormatException if the string is not a properly formatted int.

Parameters:

value The string to convert to a primitive type to wrap.

Exceptions:

NumberFormatException if the string is not a a valid integer.

6.326.1.3 virtual decaf::lang::Integer::~Integer () [inline, virtual]

6.326.2 Member Function Documentation

6.326.2.1 static int decaf::lang::Integer::bitCount (int *value*) [static]

Returns the number of one-bits in the two's complement binary representation of the specified int value. This function is sometimes referred to as the population count.

Parameters:

value - the int to count

Returns:

the number of one-bits in the two's complement binary representation of the specified int value.

6.326.2.2 virtual unsigned char decaf::lang::Integer::byteValue () const [inline, virtual]

Answers the byte value which the receiver represents.

Returns:

int the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2256).

6.326.2.3 virtual int decaf::lang::Integer::compareTo (const int & *i*) const [virtual]

Compares this **Integer** (p. 1725) instance with another.

Parameters:

i - the **Integer** (p. 1725) instance to be compared

Returns:

zero if this object represents the same integer value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object represents a value less than the passed in value.

Implements **decaf::lang::Comparable< int >** (p. 1031).

6.326.2.4 virtual int decaf::lang::Integer::compareTo (const Integer & *i*) const [virtual]

Compares this **Integer** (p. 1725) instance with another.

Parameters:

i - the **Integer** (p. 1725) instance to be compared

Returns:

zero if this object represents the same integer value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object represents a value less than the passed in value.

6.326.2.5 static Integer decaf::lang::Integer::decode (const std::string & *value*) [static]

Decodes a **String** (p. 2919) into a **Integer** (p. 1725). Accepts decimal, hexadecimal, and octal numbers given by the following grammar:

The sequence of characters following an (optional) negative sign and/or radix specifier ("0x", "0X", "#", or leading zero) is parsed as by the Integer.parseInteger method with the indicated radix (10, 16, or 8). This sequence of characters must represent a positive value or a NumberFormatException will be thrown. The result is negated if first character of the specified **String** (p. 2919) is the minus sign. No whitespace characters are permitted in the string.

Parameters:

value - The string to decode

Returns:

a **Integer** (p. 1725) object containing the decoded value

Exceptions:

NumberFomatException if the string is not formatted correctly.

6.326.2.6 virtual double decaf::lang::Integer::doubleValue () const [inline, virtual]

Answers the double value which the receiver represents.

Returns:

double the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.326.2.7 bool decaf::lang::Integer::equals (const int & *i*) const [inline, virtual]

Parameters:

i - the **Integer** (p. 1725) object to compare against.

Returns:

true if the two **Integer** (p. 1725) Objects have the same value.

Implements **decaf::lang::Comparable< int >** (p. 1032).

6.326.2.8 bool decaf::lang::Integer::equals (const Integer & *i*) const [inline]

Parameters:

i - the **Integer** (p. 1725) object to compare against.

Returns:

true if the two **Integer** (p. 1725) Objects have the same value.

6.326.2.9 virtual float decaf::lang::Integer::floatValue () const [inline, virtual]

Answers the float value which the receiver represents.

Returns:

float the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.326.2.10 static int decaf::lang::Integer::highestOneBit (int *value*) [static]

Returns an int value with at most a single one-bit, in the position of the highest-order ("leftmost") one-bit in the specified int value. Returns zero if the specified value has no one-bits in its two's complement binary representation, that is, if it is equal to zero.

Parameters:

value - the int to be inspected

Returns:

an int value with a single one-bit, in the position of the highest-order one-bit in the specified value, or zero if the specified value is itself equal to zero.

6.326.2.11 virtual int decaf::lang::Integer::intValue () const [inline, virtual]

Answers the int value which the receiver represents.

Returns:

int the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.326.2.12 virtual long long decaf::lang::Integer::longValue () const [inline, virtual]

Answers the long value which the receiver represents.

Returns:

long the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.326.2.13 static int decaf::lang::Integer::lowestOneBit (int *value*) [static]

Returns an int value with at most a single one-bit, in the position of the lowest-order ("rightmost") one-bit in the specified int value. Returns zero if the specified value has no one-bits in its two's complement binary representation, that is, if it is equal to zero.

Parameters:

value - the int to be inspected

Returns:

an int value with a single one-bit, in the position of the lowest-order one-bit in the specified value, or zero if the specified value is itself equal to zero.

6.326.2.14 static int decaf::lang::Integer::numberOfLeadingZeros (int *value*) [static]

Returns the number of zero bits preceding the highest-order ("leftmost") one-bit in the two's complement binary representation of the specified int value. Returns 32 if the specified value has no one-bits in its two's complement representation, in other words if it is equal to zero.

Note that this method is closely related to the logarithm base 2. For all positive int values x:

∗ floor(log2(x)) = 31 - numberOfLeadingZeros(x) ∗ ceil(log2(x)) = 32 - numberOfLeadingZeros(x - 1)

Parameters:

value - the int to be inspected

Returns:

the number of zero bits preceding the highest-order ("leftmost") one-bit in the two's complement binary representation of the specified int value, or 32 if the value is equal to zero.

6.326.2.15 static int decaf::lang::Integer::numberOfTrailingZeros (int *value*) [static]

Returns the number of zero bits following the lowest-order ("rightmost") one-bit in the two's complement binary representation of the specified int value. Returns 32 if the specified value has no one-bits in its two's complement representation, in other words if it is equal to zero.

Parameters:

value - the int to be inspected

Returns:

the number of zero bits following the lowest-order ("rightmost") one-bit in the two's complement binary representation of the specified int value, or 32 if the value is equal to zero.

6.326.2.16 virtual bool decaf::lang::Integer::operator< (const int & *i*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

i - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< int >** (p. 1032).

6.326.2.17 virtual bool decaf::lang::Integer::operator< (const Integer & *i*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

i - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.326.2.18 virtual bool decaf::lang::Integer::operator== (const int & *i*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

i - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< int >** (p. 1032).

6.326.2.19 virtual bool decaf::lang::Integer::operator== (const Integer & *i*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

i - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.326.2.20 static int decaf::lang::Integer::parseInt (const std::string & *s*) [static]

Parses the string argument as a signed decimal int. The characters in the string must all be decimal digits, except that the first character may be an ASCII minus sign '-' to indicate a negative value. The resulting int value is returned, exactly as if the argument and the radix 10 were given as arguments to the parseInteger(const std::string, int) method.

Parameters:

s - **String** (p. 2919) to convert to a int

Returns:

the converted int value

Exceptions:

NumberFormatException if the string is not a int.

6.326.2.21 static int decaf::lang::Integer::parseInt (const std::string & *s*, int *radix*) [static]

Parses the string argument as a signed int in the radix specified by the second argument. The characters in the string must all be digits, of the specified radix (as determined by whether **Character.digit(char, int)** (p. 911) returns a nonnegative value) except that the first character may be an ASCII minus sign '-' to indicate a negative value. The resulting byte value is returned.

An exception of type NumberFormatException is thrown if any of the following situations occurs: * The first argument is null or is a string of length zero. * The radix is either smaller than **Character.MIN_RADIX** (p. 915) or larger than **Character.MAX_RADIX** (p. 915). * Any character of the string is not a digit of the specified radix, except that the first character may be a minus sign '-' provided that the string is longer than length 1. * The value represented by the string is not a value of type int.

Parameters:

s - the **String** (p. 2919) containing the int representation to be parsed

radix - the radix to be used while parsing s

Returns:

the int represented by the string argument in the specified radix.

Exceptions:

NumberFormatException - If **String** (p. 2919) does not contain a parsable int.

6.326.2.22 static int decaf::lang::Integer::reverse (int *value*) [static]

Returns the value obtained by reversing the order of the bits in the two's complement binary representation of the specified int value.

Parameters:

value - the value whose bits are to be reversed

Returns:

the reversed bits int.

6.326.2.23 static int decaf::lang::Integer::reverseBytes (int *value*) [static]

Returns the value obtained by reversing the order of the bytes in the two's complement representation of the specified int value.

Parameters:

value - the int whose bytes we are to reverse

Returns:

the reversed int.

6.326.2.24 static int decaf::lang::Integer::rotateLeft (int *value*, int *distance*) [static]

Returns the value obtained by rotating the two's complement binary representation of the specified int value left by the specified number of bits. (Bits shifted out of the left hand, or high-order, side reenter on the right, or low-order.)

Note that left rotation with a negative distance is equivalent to right rotation: rotateLeft(val, -distance) == rotateRight(val, distance). Note also that rotation by any multiple of 32 is a no-op, so all but the last five bits of the rotation distance can be ignored, even if the distance is negative: rotateLeft(val, distance) == rotateLeft(val, distance & 0x1F).

Parameters:

value - the int to be inspected

distance - the number of bits to rotate

Returns:

the value obtained by rotating the two's complement binary representation of the specified int value left by the specified number of bits.

6.326.2.25 static int decaf::lang::Integer::rotateRight (int *value*, int *distance*) [static]

Returns the value obtained by rotating the two's complement binary representation of the specified int value right by the specified number of bits. (Bits shifted out of the right hand, or low-order, side reenter on the left, or high-order.)

Note that right rotation with a negative distance is equivalent to left rotation: rotateRight(val, -distance) == rotateLeft(val, distance). Note also that rotation by any multiple of 32 is a no-op, so all but the last five bits of the rotation distance can be ignored, even if the distance is negative: rotateRight(val, distance) == rotateRight(val, distance & 0x1F).

Parameters:

value - the int to be inspected

distance - the number of bits to rotate

Returns:

the value obtained by rotating the two's complement binary representation of the specified int value right by the specified number of bits.

6.326.2.26 virtual short decaf::lang::Integer::shortValue () const [inline, virtual]

Answers the short value which the receiver represents.

Returns:

int the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2258).

6.326.2.27 static int decaf::lang::Integer::signum (int *value*) [static]

Returns the signum function of the specified int value. (The return value is -1 if the specified value is negative; 0 if the specified value is zero; and 1 if the specified value is positive.)

Parameters:

value - the int to be inspected

Returns:

the signum function of the specified int value.

6.326.2.28 static std::string decaf::lang::Integer::toBinaryString (int *value*) [static]

Returns a string representation of the integer argument as an unsigned integer in base 2. The unsigned integer value is the argument plus 2^32 if the argument is negative; otherwise it is equal to the argument. This value is converted to a string of ASCII digits in binary (base 2) with no extra leading 0s. If the unsigned magnitude is zero, it is represented by a single zero character '0'; otherwise, the first character of the representation of the unsigned magnitude will not be the zero character.

The characters '0' and '1' are used as binary digits.

Parameters:

value - the int to be translated to a binary string

Returns:

the unsigned int value as a binary string

6.326.2.29 static std::string decaf::lang::Integer::toHexString (int *value*) [static]

Returns a string representation of the integer argument as an unsigned integer in base 16. The unsigned integer value is the argument plus 2^32 if the argument is negative; otherwise, it is equal to the argument. This value is converted to a string of ASCII digits in hexadecimal (base 16) with no extra leading 0s. If the unsigned magnitude is zero, it is represented by a single zero character '0'; otherwise, the first character of the representation of the unsigned magnitude will not be the zero character. The following characters are used as hexadecimal digits:

0123456789abcdef

If uppercase letters are desired, the toUpperCase() method may be called on the result:

Parameters:

value - the int to be translated to an Octal string

Returns:

the unsigned int value as a Octal string

6.326.2.30 static std::string decaf::lang::Integer::toOctalString (int *value*) [static]

Returns a string representation of the integer argument as an unsigned integer in base 8. The unsigned integer value is the argument plus 2^32 if the argument is negative; otherwise, it is equal to the argument. This value is converted to a string of ASCII digits in octal (base 8) with no extra leading 0s.

If the unsigned magnitude is zero, it is represented by a single zero character '0'; otherwise, the first character of the representation of the unsigned magnitude will not be the zero character. The following characters are used as octal digits:

01234567

Parameters:

value - the int to be translated to an Octal string

Returns:

the unsigned int value as a Octal string

6.326.2.31 static std::string decaf::lang::Integer::toString (int *value*, int *radix*) [static]

Returns a string representation of the first argument in the radix specified by the second argument. If the radix is smaller than **Character.MIN_RADIX** (p. 915) or larger than **Character.MAX_RADIX** (p. 915), then the radix 10 is used instead.

If the first argument is negative, the first element of the result is the ASCII minus character '-'. If the first argument is not negative, no sign character appears in the result.

The remaining characters of the result represent the magnitude of the first argument. If the magnitude is zero, it is represented by a single zero character '0'; otherwise, the first character of the representation of the magnitude will not be the zero character. The following ASCII characters are used as digits:

0123456789abcdefghijklmnopqrstuvwxyz

Parameters:

value - the int to convert to a string

radix - the radix to format the string in

Returns:

an int formatted to the string value of the radix given.

6.326.2.32 static std::string decaf::lang::Integer::toString (int *value*) [static]

Converts the int to a **String** (p. 2919) representation.

Parameters:

value The int to convert to a `std::string` instance.

Returns:

string representation

6.326.2.33 std::string decaf::lang::Integer::toString () const

Returns:

this `Integer` (p. 1725) Object as a **String** (p. 2919) Representation

Referenced by decaf::util::ArrayList< Pointer< ActiveMQDestination > >::toString().

6.326.2.34 static Integer decaf::lang::Integer::valueOf (const std::string & *value*, int *radix*) [static]

Returns a **Integer** (p. 1725) object holding the value extracted from the specified std::string when parsed with the radix given by the second argument. The first argument is interpreted as representing a signed int in the radix specified by the second argument, exactly as if the argument were given to the parseInt(std::string, int) method. The result is a **Integer** (p. 1725) object that represents the int value specified by the string.

Parameters:

value - std::string to parse as base (radix)

radix - base of the string to parse.

Returns:

new **Integer** (p. 1725) Object wrapping the primitive

Exceptions:

NumberFormatException if the string is not a valid int.

6.326.2.35 static Integer decaf::lang::Integer::valueOf (const std::string & *value*) [static]

Returns a **Integer** (p. 1725) object holding the value given by the specified std::string. The argument is interpreted as representing a signed decimal int, exactly as if the argument were given to the parseInt(std::string) method. The result is a **Integer** (p. 1725) object that represents the int value specified by the string.

Parameters:

value - std::string to parse as base 10

Returns:

new **Integer** (p. 1725) Object wrapping the primitive

Exceptions:

NumberFormatException if the string is not a decimal int.

6.326.2.36 static Integer decaf::lang::Integer::valueOf (int *value*) [inline, static]

Returns a **Integer** (p. 1725) instance representing the specified int value.

Parameters:

value - the int to wrap

Returns:

the new **Integer** (p. 1725) object wrapping value.

6.326.3 Field Documentation

6.326.3.1 const int decaf::lang::Integer::MAX_VALUE [static]

The maximum value that the primitive type can hold.

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::drainTo().

6.326.3.2 const int decaf::lang::Integer::MIN_VALUE [static]

The minimum value that the primitive type can hold.

6.326.3.3 const int decaf::lang::Integer::SIZE [static]

The size in bits of the primitive int type.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Integer.h**

6.327 activemq::commands::IntegerResponse Class Reference

`#include <src/main/activemq/commands/IntegerResponse.h>`Inheritance diagram for activemq::commands::IntegerResponse:

Public Member Functions

- **IntegerResponse** ()
- virtual ~**IntegerResponse** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **IntegerResponse** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual int **getResult** () const
- virtual void **setResult** (int **result**)

Static Public Attributes

- static const unsigned char **ID_INTEGERRESPONSE** = 34

Protected Attributes

- int **result**

6.327.1 Constructor & Destructor Documentation

6.327.1.1 activemq::commands::IntegerResponse::IntegerResponse ()

6.327.1.2 virtual activemq::commands::IntegerResponse::~IntegerResponse () [virtual]

6.327.2 Member Function Documentation

6.327.2.1 virtual IntegerResponse* activemq::commands::IntegerResponse::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::Response** (p. 2592).

6.327.2.2 virtual void activemq::commands::IntegerResponse::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::Response** (p. 2592).

6.327.2.3 virtual bool activemq::commands::IntegerResponse::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::Response** (p. 2592).

6.327.2.4 virtual unsigned char activemq::commands::IntegerResponse::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::Response** (p. 2593).

6.327.2.5 virtual int activemq::commands::IntegerResponse::getResult () const [virtual]

6.327.2.6 virtual void activemq::commands::IntegerResponse::setResult (int *result*) [virtual]

6.327.2.7 virtual std::string activemq::commands::IntegerResponse::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::Response** (p. 2593).

6.327.3 Field Documentation

6.327.3.1 const unsigned char activemq::commands::IntegerResponse::ID_INTEGERRESPONSE = 34 [static]

6.327.3.2 int activemq::commands::IntegerResponse::result [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**IntegerResponse.h**

6.328 activemq::wireformat::openwire::marshal::generated::IntegerRespo Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **IntegerResponseMarshaller** (p. 1743).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/IntegerResponseMarshaller.h>` In
diagram for activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller:

Public Member Functions

- **IntegerResponseMarshaller** ()
- virtual ~**IntegerResponseMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.328.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **IntegerResponseMarshaller** (p. 1743). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.328.2 Constructor & Destructor Documentation

6.328.2.1 activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller::IntegerR () [inline]

6.328.2.2 virtual activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller::~Integer () [inline, virtual]

6.328.3 Member Function Documentation

6.328.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller::createObje () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.328.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller::getDataStr () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.328.3.3 virtual void activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller::looseMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2603).

6.328.3.4 virtual void activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller::looseUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604).

6.328.3.5 virtual int activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2604).

6.328.3.6 virtual void activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2605).

6.328.3.7 virtual void activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller::tightUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller** (p. 2605).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**IntegerResponseMarshaller.h**

6.329 internal_state Struct Reference

`#include <src/main/decaf/internal/util/zip/deflate.h>`

Data Fields

- **z_streamp strm**
- int **status**
- **Bytef * pending_buf**
- **ulg pending_buf_size**
- **Bytef * pending_out**
- **uInt pending**
- int **wrap**
- **gz_headerp gzhead**
- **uInt gzindex**
- **Byte method**
- int **last_flush**
- **uInt w_size**
- **uInt w_bits**
- **uInt w_mask**
- **Bytef * window**
- **ulg window_size**
- **Posf * prev**
- **Posf * head**
- **uInt ins_h**
- **uInt hash_size**
- **uInt hash_bits**
- **uInt hash_mask**
- **uInt hash_shift**
- long **block_start**
- **uInt match_length**
- **IPos prev_match**
- int **match_available**
- **uInt strstart**
- **uInt match_start**
- **uInt lookahead**
- **uInt prev_length**
- **uInt max_chain_length**
- **uInt max_lazy_match**
- int **level**
- int **strategy**
- **uInt good_match**
- int **nice_match**
- struct **ct_data_s dyn_ltree** [HEAP_SIZE]
- struct **ct_data_s dyn_dtree** [2 *D_CODES+1]
- struct **ct_data_s bl_tree** [2 *BL_CODES+1]
- struct **tree_desc_s l_desc**
- struct **tree_desc_s d_desc**
- struct **tree_desc_s bl_desc**
- **ush bl_count** [MAX_BITS+1]

- int **heap** [2 ∗L_CODES+1]
- int **heap_len**
- int **heap_max**
- **uch depth** [2 ∗L_CODES+1]
- **uchf** ∗ **l_buf**
- **uInt lit_bufsize**
- **uInt last_lit**
- **ushf** ∗ **d_buf**
- **ulg opt_len**
- **ulg static_len**
- **uInt matches**
- int **last_eob_len**
- **ush bi_buf**
- int **bi_valid**
- **ulg high_water**
- int **dummy**

6.329.1 Field Documentation

6.329.1.1 ush internal_state::bi_buf

6.329.1.2 int internal_state::bi_valid

6.329.1.3 ush internal_state::bl_count[MAX_BITS+1]

6.329.1.4 struct tree_desc_s internal_state::bl_desc [read]

6.329.1.5 struct ct_data_s internal_state::bl_tree[2 *BL_CODES+1] [read]

6.329.1.6 long internal_state::block_start

6.329.1.7 ushf* internal_state::d_buf

6.329.1.8 struct tree_desc_s internal_state::d_desc [read]

6.329.1.9 uch internal_state::depth[2 *L_CODES+1]

6.329.1.10 int internal_state::dummy

6.329.1.11 struct ct_data_s internal_state::dyn_dtree[2 *D_CODES+1] [read]

6.329.1.12 struct ct_data_s internal_state::dyn_ltree[HEAP_SIZE] [read]

6.329.1.13 uInt internal_state::good_match

6.329.1.14 gz_headerp internal_state::gzhead

6.329.1.15 uInt internal_state::gzindex

6.329.1.16 uInt internal_state::hash_bits

6.329.1.17 uInt internal_state::hash_mask

6.329.1.18 uInt internal_state::hash_shift

6.329.1.19 uInt internal_state::hash_size

6.329.1.20 Posf* internal_state::head

6.329.1.21 int internal_state::heap[2 *L_CODES+1]

6.329.1.22 int internal_state::heap_len

6.329.1.23 int internal_state::heap_max

6.329.1.24 ulg internal_state::high_water

6.329.1.25 uInt internal_state::ins_h

6.329.1.26 uchf* internal_state::l_buf

6.329.1.27 struct tree_desc_s internal_state::l_desc [read]

6.329.1.28 int internal_state::last_eob_len

6.329.1.29 int internal_state::last_flush

6.329.1.30 uInt internal_state::last_lit

- src/main/decaf/internal/util/zip/**deflate.h**
- src/main/decaf/internal/util/zip/**zlib.h**

6.330 activemq::transport::mock::InternalCommandListener Class Reference

Listens for Commands sent from the **MockTransport** (p. 2208).

`#include <src/main/activemq/transport/mock/InternalCommandListener.h>`Inheritance diagram for activemq::transport::mock::InternalCommandListener:

Public Member Functions

- **InternalCommandListener** ()
- virtual ~**InternalCommandListener** ()
- void **setTransport** (**MockTransport** *transport)
- void **setResponseBuilder** (const **Pointer**< **ResponseBuilder** > responseBuilder)
- virtual void **onCommand** (const **Pointer**< **Command** > command)

  Event handler for the receipt of a command.

- void **run** ()

  Default implementation of the run method - does nothing.

6.330.1 Detailed Description

Listens for Commands sent from the **MockTransport** (p. 2208). This class processes all outbound **commands** (p. 61) and sends responses that are constructed by calling the Protocol provided **ResponseBuilder** (p. 2595) and getting a set of Commands to send back into the **MockTransport** (p. 2208) as incoming Commands and Responses.

6.330.2 Constructor & Destructor Documentation

6.330.2.1 activemq::transport::mock::InternalCommandListener::InternalCommandListener ()

6.330.2.2 virtual activemq::transport::mock::InternalCommandListener::~InternalCommandListener () `[virtual]`

6.330.3 Member Function Documentation

6.330.3.1 virtual void activemq::transport::mock::InternalCommandListener::onCommand (const Pointer< Command > command *AMQCPP_UNUSED*) `[virtual]`

Event handler for the receipt of a command. The **transport** (p. 72) passes off all received **commands** (p. 61) to its listeners, the listener then owns the Object. If there is no registered listener the **Transport** (p. 3109) deletes the command upon receipt.

Parameters:

command the received command object.

Reimplemented from **activemq::transport::DefaultTransportListener** (p. 1342).

6.330.3.2 void activemq::transport::mock::InternalCommandListener::run () [virtual]

Default implementation of the run method - does nothing.

Reimplemented from **decaf::lang::Thread** (p. 3007).

6.330.3.3 void activemq::transport::mock::InternalCommandListener::setResponseBuilder (const Pointer< ResponseBuilder > *responseBuilder*) [inline]

6.330.3.4 void activemq::transport::mock::InternalCommandListener::setTransport (MockTransport * *transport*) [inline]

The documentation for this class was generated from the following file:

- src/main/activemq/transport/mock/**InternalCommandListener.h**

6.331 decaf::lang::exceptions::InterruptedException Class Reference

`#include <src/main/decaf/lang/exceptions/InterruptedException.h>`Inheritance diagram for decaf::lang::exceptions::InterruptedException:

Public Member Functions

- **InterruptedException** ()

  Default Constructor.

- **InterruptedException** (const **Exception** &ex)

  Conversion Constructor from some other ***Exception*** *(*p. *1445).*

- **InterruptedException** (const **InterruptedException** &ex)

  Copy Constructor.

- **InterruptedException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **InterruptedException** (const std::exception *cause)

  Constructor.

- **InterruptedException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **InterruptedException** * **clone** () const

  Clones this exception.

- virtual ~**InterruptedException** () throw ()

6.331.1 Constructor & Destructor Documentation

6.331.1.1 decaf::lang::exceptions::InterruptedException::InterruptedException ()

Default Constructor.

6.331.1.2 decaf::lang::exceptions::InterruptedException::InterruptedException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.331.1.3 decaf::lang::exceptions::InterruptedException::InterruptedException (const InterruptedException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.331.1.4 decaf::lang::exceptions::InterruptedException::InterruptedException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.331.1.5 decaf::lang::exceptions::InterruptedException::InterruptedException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.331.1.6 decaf::lang::exceptions::InterruptedException::InterruptedException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.331.1.7 virtual decaf::lang::exceptions::InterruptedException::~InterruptedException () throw () [virtual]

6.331.2 Member Function Documentation

6.331.2.1 virtual InterruptedException* decaf::lang::exceptions::InterruptedException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**InterruptedException.h**

6.332 decaf::io::InterruptedIOException Class Reference

`#include <src/main/decaf/io/InterruptedIOException.h>`Inheritance diagram for decaf::io::InterruptedIOException:

Public Member Functions

- **InterruptedIOException** ()

  Default Constructor.

- **InterruptedIOException** (const **lang::Exception** &ex)

  Copy Constructor.

- **InterruptedIOException** (const **InterruptedIOException** &ex)

  Copy Constructor.

- **InterruptedIOException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **InterruptedIOException** (const std::exception *cause)

  Constructor.

- **InterruptedIOException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor.

- virtual **InterruptedIOException** * **clone** () const

  Clones this exception.

- virtual ~**InterruptedIOException** () throw ()

6.332.1 Constructor & Destructor Documentation

6.332.1.1 decaf::io::InterruptedIOException::InterruptedIOException ()

Default Constructor.

6.332.1.2 decaf::io::InterruptedIOException::InterruptedIOException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.332.1.3 decaf::io::InterruptedIOException::InterruptedIOException (const InterruptedIOException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.332.1.4 decaf::io::InterruptedIOException::InterruptedIOException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.332.1.5 decaf::io::InterruptedIOException::InterruptedIOException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.332.1.6 decaf::io::InterruptedIOException::InterruptedIOException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.332.1.7 virtual decaf::io::InterruptedIOException::~InterruptedIOException () throw () [virtual]

6.332.2 Member Function Documentation

6.332.2.1 virtual InterruptedIOException* decaf::io::InterruptedIOException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new exception that is a copy of this one.

Reimplemented from **decaf::io::IOException** (p. 1775).

Reimplemented in **decaf::net::SocketTimeoutException** (p. 2794).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**InterruptedIOException.h**

6.333 cms::InvalidClientIdException Class Reference

This exception must be thrown when a client attempts to set a connection's client ID to a value that is rejected by a provider.

`#include <src/main/cms/InvalidClientIdException.h>`Inheritance diagram for cms::InvalidClientIdException:

Public Member Functions

- **InvalidClientIdException** ()
- **InvalidClientIdException** (const **InvalidClientIdException** &ex)
- **InvalidClientIdException** (const std::string &message)
- **InvalidClientIdException** (const std::string &message, const std::exception *cause)
- **InvalidClientIdException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**InvalidClientIdException** () throw ()
- virtual **InvalidClientIdException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.333.1 Detailed Description

This exception must be thrown when a client attempts to set a connection's client ID to a value that is rejected by a provider.

Since:

1.3

6.333.2 Constructor & Destructor Documentation

6.333.2.1 cms::InvalidClientIdException::InvalidClientIdException ()

6.333.2.2 cms::InvalidClientIdException::InvalidClientIdException (const InvalidClientIdException & *ex*)

6.333.2.3 cms::InvalidClientIdException::InvalidClientIdException (const std::string & *message*)

6.333.2.4 cms::InvalidClientIdException::InvalidClientIdException (const std::string & *message*, const std::exception * *cause*)

6.333.2.5 cms::InvalidClientIdException::InvalidClientIdException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.333.2.6 virtual cms::InvalidClientIdException::~InvalidClientIdException () throw () [virtual]

6.333.3 Member Function Documentation

6.333.3.1 virtual InvalidClientIdException* cms::InvalidClientIdException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**InvalidClientIdException.h**

6.334 cms::InvalidDestinationException Class Reference

This exception must be thrown when a destination either is not understood by a provider or is no longer valid.

`#include <src/main/cms/InvalidDestinationException.h>`Inheritance diagram for cms::InvalidDestinationException:

Public Member Functions

- **InvalidDestinationException** ()
- **InvalidDestinationException** (const **InvalidDestinationException** &ex)
- **InvalidDestinationException** (const std::string &message)
- **InvalidDestinationException** (const std::string &message, const std::exception *cause)
- **InvalidDestinationException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**InvalidDestinationException** () throw ()
- virtual **InvalidDestinationException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.334.1 Detailed Description

This exception must be thrown when a destination either is not understood by a provider or is no longer valid.

Since:

1.3

6.334.2 Constructor & Destructor Documentation

6.334.2.1 cms::InvalidDestinationException::InvalidDestinationException ()

6.334.2.2 cms::InvalidDestinationException::InvalidDestinationException (const InvalidDestinationException & *ex*)

6.334.2.3 cms::InvalidDestinationException::InvalidDestinationException (const std::string & *message*)

6.334.2.4 cms::InvalidDestinationException::InvalidDestinationException (const std::string & *message*, const std::exception * *cause*)

6.334.2.5 cms::InvalidDestinationException::InvalidDestinationException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.334.2.6 virtual cms::InvalidDestinationException::~InvalidDestinationException () throw () [virtual]

6.334.3 Member Function Documentation

6.334.3.1 virtual InvalidDestinationException* cms::InvalidDestinationException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**InvalidDestinationException.h**

6.335 decaf::security::InvalidKeyException Class Reference

`#include <src/main/decaf/security/InvalidKeyException.h>`Inheritance diagram for decaf::security::InvalidKeyException:

Public Member Functions

- **InvalidKeyException** ()

  Default Constructor.

- **InvalidKeyException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **InvalidKeyException** (const **InvalidKeyException** &ex)

  Copy Constructor.

- **InvalidKeyException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **InvalidKeyException** (const std::exception *cause)

  Constructor.

- **InvalidKeyException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **InvalidKeyException** * **clone** () const

  Clones this exception.

- virtual ~**InvalidKeyException** () throw ()

6.335.1 Constructor & Destructor Documentation

6.335.1.1 decaf::security::InvalidKeyException::InvalidKeyException ()

Default Constructor.

6.335.1.2 decaf::security::InvalidKeyException::InvalidKeyException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.335.1.3 decaf::security::InvalidKeyException::InvalidKeyException (const InvalidKeyException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.335.1.4 decaf::security::InvalidKeyException::InvalidKeyException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.335.1.5 decaf::security::InvalidKeyException::InvalidKeyException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.335.1.6 decaf::security::InvalidKeyException::InvalidKeyException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.335.1.7 virtual decaf::security::InvalidKeyException::~InvalidKeyException () throw () [virtual]

6.335.2 Member Function Documentation

6.335.2.1 virtual InvalidKeyException* decaf::security::InvalidKeyException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::KeyException** (p. 1832).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**InvalidKeyException.h**

6.336 decaf::nio::InvalidMarkException Class Reference

`#include <src/main/decaf/nio/InvalidMarkException.h>`Inheritance diagram for decaf::nio::InvalidMarkException:

Public Member Functions

- **InvalidMarkException** ()

  Default Constructor.

- **InvalidMarkException** (const **lang::Exception** &ex)

  Conversion Constructor from some other Exception.

- **InvalidMarkException** (const **InvalidMarkException** &ex)

  Copy Constructor.

- **InvalidMarkException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **InvalidMarkException** (const std::exception *cause)

  Constructor.

- **InvalidMarkException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **InvalidMarkException** * **clone** () const

  Clones this exception.

- virtual ~**InvalidMarkException** () throw ()

6.336.1 Constructor & Destructor Documentation

6.336.1.1 decaf::nio::InvalidMarkException::InvalidMarkException ()

Default Constructor.

6.336.1.2 decaf::nio::InvalidMarkException::InvalidMarkException (const lang::Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex The Exception whose state data is to be copied into this Exception.

6.336.1.3 decaf::nio::InvalidMarkException::InvalidMarkException (const InvalidMarkException & *ex*)

Copy Constructor.

Parameters:

ex The Exception whose state data is to be copied into this Exception.

6.336.1.4 decaf::nio::InvalidMarkException::InvalidMarkException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.336.1.5 decaf::nio::InvalidMarkException::InvalidMarkException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.336.1.6 decaf::nio::InvalidMarkException::InvalidMarkException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.336.1.7 virtual decaf::nio::InvalidMarkException::~InvalidMarkException () throw () [virtual]

6.336.2 Member Function Documentation

6.336.2.1 virtual InvalidMarkException* decaf::nio::InvalidMarkException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A new Exception instance that is a copy of this Exception.

Reimplemented from **decaf::lang::exceptions::IllegalStateException** (p. 1649).

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**InvalidMarkException.h**

6.337 cms::InvalidSelectorException Class Reference

This exception must be thrown when a CMS client attempts to give a provider a message selector with invalid syntax.

`#include <src/main/cms/InvalidSelectorException.h>`Inheritance diagram for cms::InvalidSelectorException:

Public Member Functions

- **InvalidSelectorException** ()
- **InvalidSelectorException** (const **InvalidSelectorException** &ex)
- **InvalidSelectorException** (const std::string &message)
- **InvalidSelectorException** (const std::string &message, const std::exception *cause)
- **InvalidSelectorException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**InvalidSelectorException** () throw ()
- virtual **InvalidSelectorException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.337.1 Detailed Description

This exception must be thrown when a CMS client attempts to give a provider a message selector with invalid syntax.

Since:

1.3

6.337.2 Constructor & Destructor Documentation

6.337.2.1 cms::InvalidSelectorException::InvalidSelectorException ()

6.337.2.2 cms::InvalidSelectorException::InvalidSelectorException (const InvalidSelectorException & *ex*)

6.337.2.3 cms::InvalidSelectorException::InvalidSelectorException (const std::string & *message*)

6.337.2.4 cms::InvalidSelectorException::InvalidSelectorException (const std::string & *message*, const std::exception * *cause*)

6.337.2.5 cms::InvalidSelectorException::InvalidSelectorException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.337.2.6 virtual cms::InvalidSelectorException::~InvalidSelectorException () throw () [virtual]

6.337.3 Member Function Documentation

6.337.3.1 virtual InvalidSelectorException* cms::InvalidSelectorException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**InvalidSelectorException.h**

6.338 decaf::lang::exceptions::InvalidStateException Class Reference

`#include <src/main/decaf/lang/exceptions/InvalidStateException.h>`Inheritance diagram for decaf::lang::exceptions::InvalidStateException:

Public Member Functions

- **InvalidStateException** ()

  Default Constructor.

- **InvalidStateException** (const **Exception** &ex)

  Conversion Constructor from some other ***Exception*** *(*p. *1445).*

- **InvalidStateException** (const **InvalidStateException** &ex)

  Copy Constructor.

- **InvalidStateException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **InvalidStateException** (const std::exception *cause)

  Constructor.

- **InvalidStateException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **InvalidStateException** * **clone** () const

  Clones this exception.

- virtual ~**InvalidStateException** () throw ()

6.338.1 Constructor & Destructor Documentation

6.338.1.1 decaf::lang::exceptions::InvalidStateException::InvalidStateException ()

Default Constructor.

6.338.1.2 decaf::lang::exceptions::InvalidStateException::InvalidStateException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.338.1.3 decaf::lang::exceptions::InvalidStateException::InvalidStateException (const InvalidStateException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.338.1.4 decaf::lang::exceptions::InvalidStateException::InvalidStateException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.338.1.5 decaf::lang::exceptions::InvalidStateException::InvalidStateException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.338.1.6 decaf::lang::exceptions::InvalidStateException::InvalidStateException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.338.1.7 virtual decaf::lang::exceptions::InvalidStateException::~InvalidStateException () throw () [virtual]

6.338.2 Member Function Documentation

6.338.2.1 virtual InvalidStateException* decaf::lang::exceptions::InvalidStateException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**InvalidStateException.h**

6.339 decaf::io::IOException Class Reference

`#include <src/main/decaf/io/IOException.h>`Inheritance diagram for decaf::io::IOException:

Public Member Functions

- **IOException** ()

  Default Constructor.

- **IOException** (const **lang::Exception** &ex)

  Copy Constructor.

- **IOException** (const **IOException** &ex)

  Copy Constructor.

- **IOException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **IOException** (const std::exception *cause)

  Constructor.

- **IOException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor.

- virtual **IOException** * **clone** () const

  Clones this exception.

- virtual ~**IOException** () throw ()

6.339.1 Constructor & Destructor Documentation

6.339.1.1 decaf::io::IOException::IOException ()

Default Constructor.

6.339.1.2 decaf::io::IOException::IOException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.339.1.3 decaf::io::IOException::IOException (const IOException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.339.1.4 decaf::io::IOException::IOException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.339.1.5 decaf::io::IOException::IOException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.339.1.6 decaf::io::IOException::IOException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.339.1.7 virtual decaf::io::IOException::~IOException () throw () [virtual]

6.339.2 Member Function Documentation

6.339.2.1 virtual IOException* decaf::io::IOException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new instance of an Exception that is a copy of this instance.

Reimplemented from **decaf::lang::Exception** (p. 1447).

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocketException** (p. 2295), **decaf::io::EOFException** (p. 1440), **decaf::io::InterruptedIOException** (p. 1758), **decaf::io::UnsupportedEncodingException** (p. 3146), **decaf::io::UTFDataFormatException** (p. 3202), **decaf::net::BindException** (p. 669), **decaf::net::ConnectException** (p. 1082), **decaf::net::HttpRetryException** (p. 1636), **decaf::net::MalformedURLException** (p. 1994), **decaf::net::NoRouteToHostException** (p. 2243), **decaf::net::PortUnreachableException** (p. 2381), **decaf::net::ProtocolException** (p. 2484), **decaf::net::SocketException** (p. 2773), **decaf::net::SocketTimeoutException** (p. 2794), **decaf::net::UnknownHostException** (p. 3140), **decaf::net::UnknownServiceException** (p. 3143), and **decaf::util::zip::ZipException** (p. 3283).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**IOException.h**

6.340 activemq::transport::IOTransport Class Reference

Implementation of the **Transport** (p. 3109) interface that performs marshaling of **commands** (p. 61) to IO streams.

`#include <src/main/activemq/transport/IOTransport.h>`Inheritance diagram for activemq::transport::IOTransport:

Public Member Functions

- **IOTransport** ()

  Default Constructor.

- **IOTransport** (const **Pointer**< **wireformat::WireFormat** > wireFormat)

  *Create an instance of this **Transport** (p. 3109) and assign its WireFormat instance at creation time.*

- virtual ~**IOTransport** ()
- virtual void **setInputStream** (**decaf::io::DataInputStream** *is)

  *Sets the stream from which this **Transport** (p. 3109) implementation will read its data.*

- virtual void **setOutputStream** (**decaf::io::DataOutputStream** *os)

  *Sets the stream to which this **Transport** (p. 3109) implementation will write its data.*

- virtual void **oneway** (const **Pointer**< **Command** > command)

  Sends a one-way command.

- virtual **Pointer**< **FutureResponse** > **asyncRequest** (const **Pointer**< **Command** > command, const **Pointer**< **ResponseCallback** > responseCallback)

  *Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.*

  Parameters:

  command *The Command object that is to sent out.*
  responseCallback *A callback object that will be notified once a response to the command is received.*

  Returns:

  *A **FutureResponse** (p. 1560) instance that can be queried for the Response to the Command.*

  Exceptions:

  IOException *if an exception occurs during the read of the command.*
  UnsupportedOperationException *if this method is not implemented by this **transport** (p. 72).*

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command)

  Sends the given command to the broker and then waits for the response.

  Parameters:

  command *the command to be sent.*

  Returns:

  the response from the broker.

Exceptions:

IOException *if an exception occurs during the read of the command.*
UnsupportedOperationException *if this method is not implemented by this* ***transport*** *(p. 72).*

- virtual **Pointer< Response > request** (const **Pointer< Command >** command, unsigned int timeout)

  Sends the given command to the broker and then waits for the response.

  Parameters:

  command *The command to be sent.*
  timeout *The time to wait for this response.*

  Returns:

  the response from the broker.

  Exceptions:

  IOException *if an exception occurs during the read of the command.*
  UnsupportedOperationException *if this method is not implemented by this* ***transport*** *(p. 72).*

- virtual **Pointer< wireformat::WireFormat > getWireFormat** () const

  Gets the WireFormat instance that is in use by this ***transport*** *(p. 72).*

- virtual void **setWireFormat** (const **Pointer< wireformat::WireFormat >** wireFormat)

  Sets the WireFormat instance to use.

- virtual void **setTransportListener** (**TransportListener** *listener)

  Sets the observer of asynchronous events from this ***transport*** *(p. 72).*

- virtual **TransportListener** * **getTransportListener** () const

  Gets the observer of asynchronous events from this ***transport*** *(p. 72).*

- virtual void **start** ()

  Starts the ***Transport*** *(p. 3109), the send methods of a* ***Transport*** *(p. 3109) will throw an exception if used before the* ***Transport*** *(p. 3109) is started.*

- virtual void **stop** ()

  Stops the ***Transport*** *(p. 3109).*

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual **Transport** * **narrow** (const std::type_info &typeId)

  Narrows down a Chain of Transports to a specific ***Transport*** *(p. 3109) to allow a higher level* ***transport*** *(p. 72) to skip intermediate Transports in certain circumstances.*

- virtual bool **isFaultTolerant** () const

  Is this ***Transport*** *(p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.*

- virtual bool **isConnected** () const

  Is the ***Transport*** *(p. 3109) Connected to its Broker.*

- virtual bool **isClosed** () const

  *Has the **Transport** (p. 3109) been shutdown and no longer usable.*

- virtual std::string **getRemoteAddress** () const
- virtual bool **isReconnectSupported** () const
- virtual bool **isUpdateURIsSupported** () const
- virtual void **updateURIs** (bool rebalance AMQCPP_UNUSED, const **decaf::util::List**< **decaf::net::URI** > &uris AMQCPP_UNUSED)
- virtual void **reconnect** (const **decaf::net::URI** &uri AMQCPP_UNUSED)

- virtual void **run** ()

  Run method - called by the Thread class in the context of the thread.

6.340.1 Detailed Description

Implementation of the **Transport** (p. 3109) interface that performs marshaling of **commands** (p. 61) to IO streams. This class does not implement the **Transport::request** (p. 3114) method, it only handles oneway messages. A thread polls on the input stream for in-coming **commands** (p. 61). When a command is received, the command listener is notified. The polling thread is not started until the start method is called. Polling can be suspending by calling stop; however, because the read operation is blocking the **transport** (p. 72) my still pull one command off the wire even after the stop method has been called.

The close method will close the associated streams. Close can be called explicitly by the user, but is also called in the destructor. Once this object has been closed, it cannot be restarted.

6.340.2 Constructor & Destructor Documentation

6.340.2.1 activemq::transport::IOTransport::IOTransport ()

Default Constructor.

6.340.2.2 activemq::transport::IOTransport::IOTransport (const Pointer< wireformat::WireFormat > *wireFormat*)

Create an instance of this **Transport** (p. 3109) and assign its WireFormat instance at creation time.

Parameters:

wireFormat Data encoder / decoder to use when reading and writing.

6.340.2.3 virtual activemq::transport::IOTransport::~IOTransport () [virtual]

6.340.3 Member Function Documentation

6.340.3.1 virtual Pointer<FutureResponse> activemq::transport::IOTransport::asyncRequest (const Pointer< Command > *command*, const Pointer< ResponseCallback > *responseCallback*) [virtual]

Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.

Parameters:

command The Command object that is to sent out.

responseCallback A callback object that will be notified once a response to the command is received.

Returns:

A **FutureResponse** (p. 1560) instance that can be queried for the Response to the Command.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

This method always thrown an UnsupportedOperationException.

Implements **activemq::transport::Transport** (p. 3110).

6.340.3.2 virtual void activemq::transport::IOTransport::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

IOException if an error occurs while closing.

Implements **decaf::io::Closeable** (p. 961).

6.340.3.3 virtual std::string activemq::transport::IOTransport::getRemoteAddress () const [inline, virtual]

Returns:

the remote address for this connection

Implements **activemq::transport::Transport** (p. 3111).

6.340.3.4 virtual TransportListener* activemq::transport::IOTransport::getTransportListener () const [virtual]

Gets the observer of asynchronous events from this **transport** (p. 72).

Returns:

the listener of **transport** (p. 72) events.

Implements **activemq::transport::Transport** (p. 3111).

6.340.3.5 virtual Pointer<wireformat::WireFormat> activemq::transport::IOTransport::getWireFormat () const [virtual]

Gets the WireFormat instance that is in use by this **transport** (p. 72). In the case of nested **transport** (p. 72) this method delegates down to the lowest level **transport** (p. 72) that actually maintains a WireFormat info instance.

Returns:

The WireFormat the object used to encode / decode **commands** (p. 61).

Implements **activemq::transport::Transport** (p. 3111).

6.340.3.6 virtual bool activemq::transport::IOTransport::isClosed () const [virtual]

Has the **Transport** (p. 3109) been shutdown and no longer usable.

Returns:

true if the **Transport** (p. 3109)

Implements **activemq::transport::Transport** (p. 3112).

6.340.3.7 virtual bool activemq::transport::IOTransport::isConnected () const [virtual]

Is the **Transport** (p. 3109) Connected to its Broker.

Returns:

true if a connection has been made.

Implements **activemq::transport::Transport** (p. 3112).

6.340.3.8 virtual bool activemq::transport::IOTransport::isFaultTolerant () const [inline, virtual]

Is this **Transport** (p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.

Returns:

true if the **Transport** (p. 3109) is fault tolerant.

Implements **activemq::transport::Transport** (p. 3112).

6.340.3.9 virtual bool activemq::transport::IOTransport::isReconnectSupported () const [inline, virtual]

Returns:

true if reconnect is supported.

Implements **activemq::transport::Transport** (p. 3112).

6.340.3.10 virtual bool activemq::transport::IOTransport::isUpdateURIsSupported () const [inline, virtual]

Returns:

true if updating uris is supported.

Implements **activemq::transport::Transport** (p. 3113).

6.340.3.11 virtual Transport* activemq::transport::IOTransport::narrow (const std::type_info & *typeId*) [inline, virtual]

Narrows down a Chain of Transports to a specific **Transport** (p. 3109) to allow a higher level **transport** (p. 72) to skip intermediate Transports in certain circumstances.

Parameters:

typeId - The type_info of the Object we are searching for.

Returns:

the requested Object. or NULL if its not in this chain.

Implements **activemq::transport::Transport** (p. 3113).

References NULL.

6.340.3.12 virtual void activemq::transport::IOTransport::oneway (const Pointer< Command > *command*) [virtual]

Sends a one-way command. Does not wait for any response from the broker.

Parameters:

command The command to be sent.

Exceptions:

IOException if an exception occurs during writing of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3113).

6.340.3.13 virtual void activemq::transport::IOTransport::reconnect (const decaf::net::URI &uri *AMQCPP_UNUSED*) [inline, virtual]

This method does nothing in this subclass.

6.340.3.14 virtual Pointer<Response> activemq::transport::IOTransport::request (const Pointer< Command > *command*, unsigned int *timeout*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command The command to be sent.

timeout The time to wait for this response.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

This method always thrown an UnsupportedOperationException.

Implements **activemq::transport::Transport** (p. 3114).

6.340.3.15 virtual Pointer<Response> activemq::transport::IOTransport::request (const Pointer< Command > *command*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command the command to be sent.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

This method always thrown an UnsupportedOperationException.

Implements **activemq::transport::Transport** (p. 3114).

6.340.3.16 virtual void activemq::transport::IOTransport::run () [virtual]

Run method - called by the Thread class in the context of the thread.

Implements **decaf::lang::Runnable** (p. 2607).

6.340.3.17 virtual void activemq::transport::IOTransport::setInputStream (decaf::io::DataInputStream * *is*) [virtual]

Sets the stream from which this **Transport** (p. 3109) implementation will read its data.

Parameters:

is The InputStream that will be read from by this object.

6.340.3.18 virtual void activemq::transport::IOTransport::setOutputStream (decaf::io::DataOutputStream * *os*) [virtual]

Sets the stream to which this **Transport** (p. 3109) implementation will write its data.

Parameters:

os The OuputStream that will be written to by this object.

6.340.3.19 virtual void activemq::transport::IOTransport::setTransportListener (TransportListener * *listener*) [virtual]

Sets the observer of asynchronous events from this **transport** (p. 72).

Parameters:

listener the listener of **transport** (p. 72) events.

Implements **activemq::transport::Transport** (p. 3115).

6.340.3.20 virtual void activemq::transport::IOTransport::setWireFormat (const Pointer< wireformat::WireFormat > *wireFormat*) [virtual]

Sets the WireFormat instance to use.

Parameters:

wireFormat The WireFormat the object used to encode / decode **commands** (p. 61).

Implements **activemq::transport::Transport** (p. 3115).

6.340.3.21 virtual void activemq::transport::IOTransport::start () [virtual]

Starts the **Transport** (p. 3109), the send methods of a **Transport** (p. 3109) will throw an exception if used before the **Transport** (p. 3109) is started.

Exceptions:

IOException if and error occurs while starting the **Transport** (p. 3109).

Implements **activemq::transport::Transport** (p. 3115).

6.340.3.22 virtual void activemq::transport::IOTransport::stop () [virtual]

Stops the **Transport** (p. 3109).

Exceptions:

IOException if an error occurs while stopping the **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3116).

6.340.3.23 virtual void activemq::transport::IOTransport::updateURIs (bool rebalance *AMQCPP_UNUSED*, const decaf::util::List< decaf::net::URI > &uris *AMQCPP_UNUSED*) [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**IOTransport.h**

6.341 decaf::lang::Iterable< E > Class Template Reference

Implementing this interface allows an object to be cast to an **Iterable** (p. 1786) type for generic collections API calls.

`#include <src/main/decaf/lang/Iterable.h>`Inheritance diagram for decaf::lang::Iterable< E >:

Public Member Functions

- virtual ~**Iterable** ()
- virtual **decaf::util::Iterator**< E > * **iterator** ()=0
- virtual **decaf::util::Iterator**< E > * **iterator** () const =0

6.341.1 Detailed Description

template<typename E> class decaf::lang::Iterable< E >

Implementing this interface allows an object to be cast to an **Iterable** (p. 1786) type for generic collections API calls.

6.341.2 Constructor & Destructor Documentation

6.341.2.1 template<typename E> virtual decaf::lang::Iterable< E >::~Iterable () [inline, virtual]

6.341.3 Member Function Documentation

6.341.3.1 template<typename E> virtual decaf::util::Iterator<E>* decaf::lang::Iterable< E >::iterator () const [pure virtual]

Implemented in **decaf::util::AbstractList**< E > (p. 161), **decaf::util::AbstractSequentialList**< E > (p. 195), **decaf::util::concurrent::CopyOnWriteArrayList**< E > (p. 1206), **decaf::util::concurrent::CopyOnWriteArraySet**< E > (p. 1221), **decaf::util::concurrent::LinkedBlockingQueue**< E > (p. 1856), **decaf::util::concurrent::SynchronousQueue**< E > (p. 2958), **decaf::util::HashMap**< K, V, HASHCODE >::**HashMapEntrySet** (p. 1618), **decaf::util::HashMap**< K, V, HASHCODE >::**ConstHashMapEntrySet** (p. 1150), **decaf::util::HashMap**< K, V, HASHCODE >::**HashMapKeySet** (p. 1623), **decaf::util::HashMap**< K, V, HASHCODE >::**ConstHashMapKeySet** (p. 1154), **decaf::util::HashMap**< K, V, HASHCODE >::**HashMapValueCollection** (p. 1627), **decaf::util::HashMap**< K, V, HASHCODE >::**ConstHashMapValueCollection** (p. 1157), **decaf::util::PriorityQueue**< E > (p. 2435), **decaf::util::StlList**< E > (p. 2848), **decaf::util::StlSet**< E > (p. 2881), **decaf::util::AbstractList**< ServiceListener * > (p. 161), **decaf::util::AbstractList**< cms::MessageConsumer * > (p. 161), **decaf::util::AbstractList**< CompositeTask * > (p. 161), **decaf::util::AbstractList**< URI > (p. 161), **decaf::util::AbstractList**< Pointer< MessageDispatch > > (p. 161), **decaf::util::AbstractList**< Pointer< DestinationInfo > > (p. 161), **decaf::util::AbstractList**< PrimitiveValueNode > (p. 161), **decaf::util::AbstractList**< decaf::net::URI > (p. 161), **decaf::util::AbstractList**<

Pointer< Command > > (p. 161), decaf::util::AbstractList< cms::MessageProducer * > (p. 161), decaf::util::AbstractList< cms::Destination * > (p. 161), decaf::util::AbstractList< cms::Session * > (p. 161), decaf::util::AbstractList< Pointer< ActiveMQDestination > > (p. 161), decaf::util::AbstractList< cms::Connection * > (p. 161), decaf::util::AbstractSequentialList< cms::MessageConsumer * > (p. 195), decaf::util::AbstractSequentialList< CompositeTask * > (p. 195), decaf::util::AbstractSequentialList< URI > (p. 195), decaf::util::AbstractSequentialList< Pointer< MessageDispatch > > (p. 195), decaf::util::AbstractSequentialList< Pointer< DestinationInfo > > (p. 195), decaf::util::AbstractSequentialList< PrimitiveValueNode > (p. 195), decaf::util::AbstractSequentialList< decaf::net::URI > (p. 195), decaf::util::AbstractSequentialList< Pointer< Command > > (p. 195), decaf::util::AbstractSequentialList< cms::MessageProducer * > (p. 195), decaf::util::AbstractSequentialList< cms::Destination * > (p. 195), decaf::util::AbstractSequentialList< cms::Session * > (p. 195), decaf::util::AbstractSequentialList< cms::Connection * > (p. 195), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > > (p. 1856), decaf::util::StlSet< Pointer< Synchronization > > (p. 2881), and decaf::util::StlSet< Resource * > (p. 2881).

6.341.3.2 template<typename E> virtual decaf::util::Iterator<E>* decaf::lang::Iterable< E >::iterator () [pure virtual]

Returns:

an iterator over a set of elements of type T.

Implemented in decaf::util::AbstractList< E > (p. 161), decaf::util::AbstractSequentialList< E > (p. 196), decaf::util::concurrent::CopyOnWriteArrayList< E > (p. 1206), decaf::util::concurrent::CopyOnWriteArraySet< E > (p. 1221), decaf::util::concurrent::LinkedBlockingQueue< E > (p. 1856), decaf::util::concurrent::SynchronousQueue< E > (p. 2958), decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet (p. 1619), decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet (p. 1150), decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet (p. 1623), decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet (p. 1154), decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection (p. 1627), decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection (p. 1157), decaf::util::PriorityQueue< E > (p. 2436), decaf::util::StlList< E > (p. 2848), decaf::util::StlSet< E > (p. 2881), decaf::util::AbstractList< ServiceListener * > (p. 161), decaf::util::AbstractList< cms::MessageConsumer * > (p. 161), decaf::util::AbstractList< CompositeTask * > (p. 161), decaf::util::AbstractList< URI > (p. 161), decaf::util::AbstractList< Pointer< MessageDispatch > > (p. 161), decaf::util::AbstractList< Pointer< DestinationInfo > > (p. 161), decaf::util::AbstractList< PrimitiveValueNode > (p. 161), decaf::util::AbstractList< decaf::net::URI > (p. 161), decaf::util::AbstractList< Pointer< Command > > (p. 161), decaf::util::AbstractList< cms::MessageProducer * > (p. 161), decaf::util::AbstractList< cms::Destination * > (p. 161), decaf::util::AbstractList< cms::Session * > (p. 161), decaf::util::AbstractList< Pointer< ActiveMQDestination > > (p. 161), decaf::util::AbstractList< cms::Connection * > (p. 161), decaf::util::AbstractSequentialList< cms::MessageConsumer * > (p. 196), decaf::util::AbstractSequentialList< CompositeTask * > (p. 196), decaf::util::AbstractSequentialList< URI > (p. 196), decaf::util::AbstractSequentialList< Pointer< MessageDispatch > > (p. 196), decaf::util::AbstractSequentialList< Pointer< Desti-

nationInfo > > (p. 196), **decaf::util::AbstractSequentialList**< **PrimitiveValueNode** > (p. 196), **decaf::util::AbstractSequentialList**< **decaf::net::URI** > (p. 196), **decaf::util::AbstractSequentialList**< **Pointer**< **Command** > > (p. 196), **decaf::util::AbstractSequentialList**< **cms::MessageProducer** * > (p. 196), **decaf::util::AbstractSequentialList**< **cms::Destination** * > (p. 196), **decaf::util::AbstractSequentialList**< **cms::Session** * > (p. 196), **decaf::util::AbstractSequentialList**< **cms::Connection** * > (p. 196), **decaf::util::concurrent::LinkedBlockingQueue**< **Pointer**< **Transport** > > (p. 1856), **decaf::util::StlSet**< **Pointer**< **Synchronization** > > (p. 2881), and **decaf::util::StlSet**< **Resource** * > (p. 2881).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll(), decaf::util::AbstractSequentialList< cms::Connection * >::addAll(), decaf::util::AbstractList< cms::Connection * >::addAll(), decaf::util::AbstractCollection< K >::addAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent(), decaf::util::ArrayList< Pointer< ActiveMQDestination > >::ArrayList(), decaf::util::AbstractCollection< K >::clear(), decaf::util::AbstractCollection< K >::contains(), decaf::util::concurrent::CopyOnWriteArrayList< E >::containsAll(), decaf::util::AbstractCollection< K >::containsAll(), decaf::util::AbstractCollection< K >::copy(), decaf::util::concurrent::CopyOnWriteArraySet< E >::equals(), decaf::util::concurrent::CopyOnWriteArrayList< E >::equals(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::LinkedBlockingQueue(), decaf::util::AbstractCollection< K >::operator=(), decaf::util::StlMap< std::string, cms::Topic * >::putAll(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::putAll(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAllImpl(), decaf::util::AbstractCollection< K >::remove(), decaf::util::AbstractSet< K >::removeAll(), decaf::util::AbstractCollection< K >::removeAll(), decaf::util::AbstractCollection< K >::retainAll(), and decaf::util::AbstractCollection< K >::toArray().

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Iterable.h**

6.342 decaf::util::Iterator< E > Class Template Reference

Defines an object that can be used to iterate over the elements of a collection.

`#include <src/main/decaf/util/Iterator.h>`Inheritance diagram for decaf::util::Iterator< E >:

Public Member Functions

- virtual ~**Iterator** ()
- virtual E **next** ()=0

  Returns the next element in the iteration.

- virtual bool **hasNext** () const =0

  Returns true if the iteration has more elements.

- virtual void **remove** ()=0

  Removes from the underlying collection the last element returned by the iterator (optional operation).

6.342.1 Detailed Description

template<typename E> class decaf::util::Iterator< E >

Defines an object that can be used to iterate over the elements of a collection. The iterator provides a way to access and remove elements with well defined semantics.

6.342.2 Constructor & Destructor Documentation

6.342.2.1 template<typename E> virtual decaf::util::Iterator< E >::~Iterator () [inline, virtual]

6.342.3 Member Function Documentation

6.342.3.1 template<typename E> virtual bool decaf::util::Iterator< E >::hasNext () const [pure virtual]

Returns true if the iteration has more elements. Returns false if the next call to next would result in an **NoSuchElementException** (p. 2247) to be thrown.

Returns:

true if there are more elements available for iteration.

Implemented in **decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator** (p. 590).

6.342.3.2 template<typename E> virtual E decaf::util::Iterator< E >::next () [pure virtual]

Returns the next element in the iteration. Calling this method repeatedly until the **hasNext()** (p. 1789) method returns false will return each element in the underlying collection exactly once.

Returns:

the next element in the iteration of elements.

Exceptions:

NoSuchElementException *(p. 2247)* if the iteration has no more elements.

Implemented in **decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator** (p. 590).

6.342.3.3 template<typename E> virtual void decaf::util::Iterator< E >::remove () [pure virtual]

Removes from the underlying collection the last element returned by the iterator (optional operation). This method can be called only once per call to next. The behavior of an iterator is unspecified if the underlying collection is modified while the iteration is in progress in any way other than by calling this method.

Exceptions:

UnsupportedOperationException if the remove operation is not supported by this **Iterator** (p. 1789).

IllegalStateException if the next method has not yet been called, or the remove method has already been called after the last call to the next method.

Implemented in **decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator** (p. 591).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Iterator.h**

6.343 activemq::commands::JournalQueueAck Class Reference

`#include <src/main/activemq/commands/JournalQueueAck.h>`Inheritance diagram for activemq::commands::JournalQueueAck:

Public Member Functions

- **JournalQueueAck** ()
- virtual ~**JournalQueueAck** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **JournalQueueAck** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual const **Pointer**< **MessageAck** > & **getMessageAck** () const
- virtual **Pointer**< **MessageAck** > & **getMessageAck** ()
- virtual void **setMessageAck** (const **Pointer**< **MessageAck** > &**messageAck**)

Static Public Attributes

- static const unsigned char **ID_JOURNALQUEUEACK** = 52

Protected Attributes

- **Pointer**< **ActiveMQDestination** > **destination**
- **Pointer**< **MessageAck** > **messageAck**

6.343.1 Constructor & Destructor Documentation

6.343.1.1 activemq::commands::JournalQueueAck::JournalQueueAck ()

6.343.1.2 virtual activemq::commands::JournalQueueAck::~JournalQueueAck () [virtual]

6.343.2 Member Function Documentation

6.343.2.1 virtual JournalQueueAck* activemq::commands::JournalQueueAck::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.343.2.2 virtual void activemq::commands::JournalQueueAck::copyDataStructure (const DataStructure * *src*) [virtual]

6.343.2.3 virtual bool activemq::commands::JournalQueueAck::equals (const DataStructure * *value*) const [virtual]

6.343.2.4 virtual unsigned char activemq::commands::JournalQueueAck::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.343.2.5 virtual Pointer<ActiveMQDestination>& activemq::commands::JournalQueueAck::getDestination () [virtual]

6.343.2.6 virtual const Pointer<ActiveMQDestination>& activemq::commands::JournalQueueAck::getDestination () const [virtual]

6.343.2.7 virtual Pointer<MessageAck>& activemq::commands::JournalQueueAck::getMessageAck () [virtual]

6.343.2.8 virtual const Pointer<MessageAck>& activemq::commands::JournalQueueAck::getMessageAck () const [virtual]

6.343.2.9 virtual void activemq::commands::JournalQueueAck::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.343.2.10 virtual void activemq::commands::JournalQueueAck::setMessageAck (const Pointer< MessageAck > & *messageAck*) [virtual]

6.343.2.11 virtual std::string activemq::commands::JournalQueueAck::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.343.3 Field Documentation

6.343.3.1 Pointer<ActiveMQDestination> activemq::commands::JournalQueueAck::destination [protected]

6.343.3.2 const unsigned char activemq::commands::JournalQueueAck::ID_JOURNALQUEUEACK = 52 [static]

6.343.3.3 Pointer<MessageAck> activemq::commands::JournalQueueAck::messageAck [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**JournalQueueAck.h**

6.344 activemq::wireformat::openwire::marshal::generated::JournalQueu Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **JournalQueueAckMarshaller** (p. 1794).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/JournalQueueAckMarshaller.h>`In diagram for activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller:

Public Member Functions

- **JournalQueueAckMarshaller** ()
- virtual ~**JournalQueueAckMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.344.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **JournalQueueAckMarshaller** (p. 1794). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.344.2 Constructor & Destructor Documentation

6.344.2.1 activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller::Journa
() [inline]

6.344.2.2 virtual activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller::~Journ
() [inline, virtual]

6.344.3 Member Function Documentation

6.344.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller::createOb
() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.344.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller::getDataS
() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.344.3.3 virtual void activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller::looseMar
(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.344.3.4 virtual void activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller::looseUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.344.3.5 virtual int activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.344.3.6 virtual void activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.344.3.7 virtual void activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller::tightUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**JournalQueueAckMarshaller.h**

6.345 activemq::commands::JournalTopicAck Class Reference

`#include <src/main/activemq/commands/JournalTopicAck.h>`Inheritance diagram for activemq::commands::JournalTopicAck:

Public Member Functions

- **JournalTopicAck** ()
- virtual ~**JournalTopicAck** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **JournalTopicAck** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual const **Pointer**< **MessageId** > & **getMessageId** () const
- virtual **Pointer**< **MessageId** > & **getMessageId** ()
- virtual void **setMessageId** (const **Pointer**< **MessageId** > &**messageId**)
- virtual long long **getMessageSequenceId** () const
- virtual void **setMessageSequenceId** (long long **messageSequenceId**)
- virtual const std::string & **getSubscritionName** () const
- virtual std::string & **getSubscritionName** ()
- virtual void **setSubscritionName** (const std::string &**subscritionName**)
- virtual const std::string & **getClientId** () const
- virtual std::string & **getClientId** ()
- virtual void **setClientId** (const std::string &**clientId**)
- virtual const **Pointer**< **TransactionId** > & **getTransactionId** () const
- virtual **Pointer**< **TransactionId** > & **getTransactionId** ()
- virtual void **setTransactionId** (const **Pointer**< **TransactionId** > &**transactionId**)

Static Public Attributes

- static const unsigned char **ID_JOURNALTOPICACK** = 50

Protected Attributes

- **Pointer< ActiveMQDestination > destination**
- **Pointer< MessageId > messageId**
- long long **messageSequenceId**
- std::string **subscritionName**
- std::string **clientId**
- **Pointer< TransactionId > transactionId**

6.345.1 Constructor & Destructor Documentation

6.345.1.1 activemq::commands::JournalTopicAck::JournalTopicAck ()

6.345.1.2 virtual activemq::commands::JournalTopicAck::~JournalTopicAck () [virtual]

6.345.2 Member Function Documentation

6.345.2.1 virtual JournalTopicAck* activemq::commands::JournalTopicAck::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.345.2.2 virtual void activemq::commands::JournalTopicAck::copyDataStructure (const DataStructure * *src*) [virtual]

6.345.2.3 virtual bool activemq::commands::JournalTopicAck::equals (const DataStructure * *value*) const [virtual]

6.345.2.4 virtual std::string& activemq::commands::JournalTopicAck::getClientId () [virtual]

6.345.2.5 virtual const std::string& activemq::commands::JournalTopicAck::getClientId () const [virtual]

6.345.2.6 virtual unsigned char activemq::commands::JournalTopicAck::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.345.2.7 virtual Pointer<ActiveMQDestination>& activemq::commands::JournalTopicAck::getDestination () [virtual]

6.345.2.8 virtual const Pointer<ActiveMQDestination>& activemq::commands::JournalTopicAck::getDestination () const [virtual]

6.345.2.9 virtual Pointer<MessageId>& activemq::commands::JournalTopicAck::getMessageId () [virtual]

6.345.2.10 virtual const Pointer<MessageId>& activemq::commands::JournalTopicAck::getMessageId () const [virtual]

6.345.2.11 virtual long long activemq::commands::JournalTopicAck::getMessageSequenceId () const [virtual]

6.345.2.12 virtual std::string& activemq::commands::JournalTopicAck::getSubscritionName () [virtual]

6.345.2.13 virtual const std::string& activemq::commands::JournalTopicAck::getSubscritionName () const [virtual]

6.345.2.14 virtual Pointer<TransactionId>& activemq::commands::JournalTopicAck::getTransactionId () [virtual]

6.345.2.15 virtual const Pointer<TransactionId>& activemq::commands::JournalTopicAck::getTransactionId () const [virtual]

6.345.2.16 virtual void activemq::commands::JournalTopicAck::setClientId (const std::string & *clientId*) [virtual]

6.345.2.17 virtual void activemq::commands::JournalTopicAck::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.345.2.18 virtual void activemq::commands::JournalTopicAck::setMessageId (const Pointer< MessageId > & *messageId*) [virtual]

6.345.2.19 virtual void activemq::commands::JournalTopicAck::setMessageSequenceId (long long *messageSequenceId*) [virtual]

6.345.2.20 virtual void activemq::commands::JournalTopicAck::setSubscritionName (const std::string & *subscritionName*) [virtual]

6.345.2.21 virtual void activemq::commands::JournalTopicAck::setTransactionId (const Pointer< TransactionId > & *transactionId*) [virtual]

6.345.2.22 virtual std::string activemq::commands::JournalTopicAck::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.345.3 Field Documentation

6.345.3.1 std::string activemq::commands::JournalTopicAck::clientId [protected]

6.345.3.2 Pointer<ActiveMQDestination> activemq::commands::JournalTopicAck::destination [protected]

6.345.3.3 const unsigned char activemq::commands::JournalTopicAck::ID_JOURNALTOPICACK = 50 [static]

6.345.3.4 Pointer<MessageId> activemq::commands::JournalTopicAck::messageId [protected]

6.345.3.5 long long activemq::commands::JournalTopicAck::messageSequenceId [protected]

6.345.3.6 std::string activemq::commands::JournalTopicAck::subscritionName [protected]

6.345.3.7 Pointer<TransactionId> activemq::commands::JournalTopicAck::transactionId [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**JournalTopicAck.h**

6.346 activemq::wireformat::openwire::marshal::generated::JournalTopic Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **JournalTopicAckMarshaller** (p. 1803).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/JournalTopicAckMarshaller.h>`In diagram for activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller:

Public Member Functions

- **JournalTopicAckMarshaller** ()
- virtual ~**JournalTopicAckMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.346.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **JournalTopicAckMarshaller** (p. 1803). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.346.2 Constructor & Destructor Documentation

6.346.2.1 activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller::Journal
() [inline]

6.346.2.2 virtual activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller::~Journa
() [inline, virtual]

6.346.3 Member Function Documentation

6.346.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller::createObj
() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.346.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller::getDataSt
() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.346.3.3 virtual void activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller::looseMars
(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.346.3.4 virtual void activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller::looseUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.346.3.5 virtual int activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.346.3.6 virtual void activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.346.3.7 virtual void activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller::tightUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**JournalTopicAckMarshaller.h**

6.347 activemq::commands::JournalTrace Class Reference

`#include <src/main/activemq/commands/JournalTrace.h>`Inheritance diagram for activemq::commands::JournalTrace:

Public Member Functions

- **JournalTrace** ()
- virtual ~**JournalTrace** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **JournalTrace** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const std::string & **getMessage** () const
- virtual std::string & **getMessage** ()
- virtual void **setMessage** (const std::string &**message**)

Static Public Attributes

- static const unsigned char **ID_JOURNALTRACE** = 53

Protected Attributes

- std::string **message**

6.347.1 Constructor & Destructor Documentation

6.347.1.1 activemq::commands::JournalTrace::JournalTrace ()

6.347.1.2 virtual activemq::commands::JournalTrace::~JournalTrace () [virtual]

6.347.2 Member Function Documentation

6.347.2.1 virtual JournalTrace* activemq::commands::JournalTrace::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.347.2.2 virtual void activemq::commands::JournalTrace::copyDataStructure (const DataStructure * *src*) [virtual]

6.347.2.3 virtual bool activemq::commands::JournalTrace::equals (const DataStructure * *value*) const [virtual]

6.347.2.4 virtual unsigned char activemq::commands::JournalTrace::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.347.2.5 virtual std::string& activemq::commands::JournalTrace::getMessage () [virtual]

6.347.2.6 virtual const std::string& activemq::commands::JournalTrace::getMessage () const [virtual]

6.347.2.7 virtual void activemq::commands::JournalTrace::setMessage (const std::string & *message*) [virtual]

6.347.2.8 virtual std::string activemq::commands::JournalTrace::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.347.3 Field Documentation

6.347.3.1 const unsigned char activemq::commands::JournalTrace::ID_JOURNALTRACE = 53 [static]

6.347.3.2 std::string activemq::commands::JournalTrace::message [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**JournalTrace.h**

6.348 activemq::wireformat::openwire::marshal::generated::JournalTrace Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **JournalTraceMarshaller** (p. 1810).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/JournalTraceMarshaller.h>`Inheri
diagram for activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller:

Public Member Functions

- **JournalTraceMarshaller** ()
- virtual ~**JournalTraceMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.348.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **JournalTraceMarshaller** (p. 1810). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.348.2 Constructor & Destructor Documentation

6.348.2.1 activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller::JournalTrac () [inline]

6.348.2.2 virtual activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller::~JournalTra () [inline, virtual]

6.348.3 Member Function Documentation

6.348.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.348.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller::getDataStruct () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.348.3.3 virtual void activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.348.3.4 virtual void activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller::looseUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.348.3.5 virtual int activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.348.3.6 virtual void activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.348.3.7 virtual void activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller::tightUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**JournalTraceMarshaller.h**

6.349 activemq::commands::JournalTransaction Class Reference

`#include <src/main/activemq/commands/JournalTransaction.h>`Inheritance diagram for activemq::commands::JournalTransaction:

Public Member Functions

- **JournalTransaction** ()
- virtual ~**JournalTransaction** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **JournalTransaction** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const **Pointer**< **TransactionId** > & **getTransactionId** () const
- virtual **Pointer**< **TransactionId** > & **getTransactionId** ()
- virtual void **setTransactionId** (const **Pointer**< **TransactionId** > &**transactionId**)
- virtual unsigned char **getType** () const
- virtual void **setType** (unsigned char **type**)
- virtual bool **getWasPrepared** () const
- virtual void **setWasPrepared** (bool **wasPrepared**)

Static Public Attributes

- static const unsigned char **ID_JOURNALTRANSACTION** = 54

Protected Attributes

- **Pointer**< **TransactionId** > **transactionId**
- unsigned char **type**
- bool **wasPrepared**

6.349.1 Constructor & Destructor Documentation

6.349.1.1 activemq::commands::JournalTransaction::JournalTransaction ()

6.349.1.2 virtual activemq::commands::JournalTransaction::~JournalTransaction () [virtual]

6.349.2 Member Function Documentation

6.349.2.1 virtual JournalTransaction* activemq::commands::JournalTransaction::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.349.2.2 virtual void activemq::commands::JournalTransaction::copyDataStructure (const DataStructure * *src*) [virtual]

6.349.2.3 virtual bool activemq::commands::JournalTransaction::equals (const DataStructure * *value*) const [virtual]

6.349.2.4 virtual unsigned char activemq::commands::JournalTransaction::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.349.2.5 virtual Pointer<TransactionId>& activemq::commands::JournalTransaction::getTransactionId () [virtual]

6.349.2.6 virtual const Pointer<TransactionId>& activemq::commands::JournalTransaction::getTransactionId () const [virtual]

6.349.2.7 virtual unsigned char activemq::commands::JournalTransaction::getType () const [virtual]

6.349.2.8 virtual bool activemq::commands::JournalTransaction::getWasPrepared () const [virtual]

6.349.2.9 virtual void activemq::commands::JournalTransaction::setTransactionId (const Pointer< TransactionId > & *transactionId*) [virtual]

6.349.2.10 virtual void activemq::commands::JournalTransaction::setType (unsigned char *type*) [virtual]

6.349.2.11 virtual void activemq::commands::JournalTransaction::setWasPrepared (bool *wasPrepared*) [virtual]

6.349.2.12 virtual std::string activemq::commands::JournalTransaction::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.349.3 Field Documentation

6.349.3.1 const unsigned char activemq::commands::JournalTransaction::ID_JOURNALTRANSACTION = 54 [static]

6.349.3.2 Pointer<TransactionId> activemq::commands::JournalTransaction::transactionId [protected]

6.349.3.3 unsigned char activemq::commands::JournalTransaction::type [protected]

6.349.3.4 bool activemq::commands::JournalTransaction::wasPrepared [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**JournalTransaction.h**

6.350 activemq::wireformat::openwire::marshal::generated::JournalTrans Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **JournalTransactionMarshaller** (p. 1817).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/JournalTransactionMarshaller.h`
diagram for activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller:

Public Member Functions

- **JournalTransactionMarshaller** ()
- virtual ~**JournalTransactionMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.350.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **JournalTransactionMarshaller** (p. 1817).
NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.350.2 Constructor & Destructor Documentation

6.350.2.1 activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller::Journ () [inline]

6.350.2.2 virtual activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller::~Jour () [inline, virtual]

6.350.3 Member Function Documentation

6.350.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller::createO () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.350.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller::getData () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.350.3.3 virtual void activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller::looseMa (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.350.3.4 virtual void activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller::looseUn (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.350.3.5 virtual int activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller::tightMa (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.350.3.6 virtual void activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller::tightMa (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.350.3.7 virtual void activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller::tightUn (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**JournalTransactionMarshaller.h**

6.351 activemq::commands::KeepAliveInfo Class Reference

`#include <src/main/activemq/commands/KeepAliveInfo.h>`Inheritance diagram for activemq::commands::KeepAliveInfo:

Public Member Functions

- **KeepAliveInfo** ()
- virtual ~**KeepAliveInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **KeepAliveInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual bool **isKeepAliveInfo** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_KEEPALIVEINFO** = 10

6.351.1 Constructor & Destructor Documentation

6.351.1.1 activemq::commands::KeepAliveInfo::KeepAliveInfo ()

6.351.1.2 virtual activemq::commands::KeepAliveInfo::~KeepAliveInfo () [virtual]

6.351.2 Member Function Documentation

6.351.2.1 virtual KeepAliveInfo* activemq::commands::KeepAliveInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.351.2.2 virtual void activemq::commands::KeepAliveInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.351.2.3 virtual bool activemq::commands::KeepAliveInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.351.2.4 virtual unsigned char activemq::commands::KeepAliveInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.351.2.5 virtual bool activemq::commands::KeepAliveInfo::isKeepAliveInfo () const [inline, virtual]

Returns:

an answer of true to the **isKeepAliveInfo()** (p. 1822) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 632).

6.351.2.6 virtual std::string activemq::commands::KeepAliveInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.351.2.7 virtual Pointer<Command> activemq::commands::KeepAliveInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.351.3 Field Documentation

6.351.3.1 const unsigned char activemq::commands::KeepAliveInfo::ID_KEEPALIVEINFO = 10 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**KeepAliveInfo.h**

6.352 activemq::wireformat::openwire::marshal::generated::KeepAliveInf Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **KeepAliveInfoMarshaller** (p. 1824).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/KeepAliveInfoMarshaller.h>`Inhe
diagram for activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller:

Public Member Functions

- **KeepAliveInfoMarshaller** ()
- virtual ~**KeepAliveInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.352.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **KeepAliveInfoMarshaller** (p. 1824). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.352.2 Constructor & Destructor Documentation

6.352.2.1 activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller::KeepAlive() [inline]

6.352.2.2 virtual activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller::~KeepAliv() [inline, virtual]

6.352.3 Member Function Documentation

6.352.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller::createObject() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.352.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller::getDataStruc() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.352.3.3 virtual void activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller::looseMarsha(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.352.3.4 virtual void activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller::looseUnmars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.352.3.5 virtual int activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.352.3.6 virtual void activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.352.3.7 virtual void activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller::tightUnmars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**KeepAliveInfoMarshaller.h**

6.353 decaf::security::Key Class Reference

The **Key** (p. 1828) interface is the top-level interface for all keys.

`#include <src/main/decaf/security/Key.h>`Inheritance diagram for decaf::security::Key:

Public Member Functions

- virtual ~**Key** ()
- virtual std::string **getAlgorithm** () const =0

  Returns the standard algorithm name for this key.

- virtual void **getEncoded** (std::vector< unsigned char > &output) const =0

  Provides the key in its primary encoding format, or nothing if this key does not support encoding.

- virtual std::string **getFormat** () const =0

  Returns the name of the primary encoding format of this key, or an empty string if this key does not support encoding.

6.353.1 Detailed Description

The **Key** (p. 1828) interface is the top-level interface for all keys. It defines the functionality shared by all key objects. All keys have three characteristics:

An Algorithm

This is the key algorithm for that key. The key algorithm is usually an encryption or asymmetric operation algorithm (such as DSA or RSA), which will work with those algorithms and with related algorithms (such as MD5 with RSA, SHA-1 with RSA, Raw DSA, etc.) The name of the algorithm of a key is obtained using the getAlgorithm method.

An Encoded Form

This is an external encoded form for the key used when a standard representation of the key is needed outside the application, as when transmitting the key to some other party. The key is encoded according to a standard format (such as X.509 SubjectPublicKeyInfo or PKCS#8), and is returned using the getEncoded method. Note: The syntax of the ASN.1 type SubjectPublicKeyInfo is defined as follows:

SubjectPublicKeyInfo ::= SEQUENCE {

algorithm AlgorithmIdentifier,

subjectPublicKey BIT STRING }

AlgorithmIdentifier ::= SEQUENCE {

algorithm OBJECT IDENTIFIER,

parameters ANY DEFINED BY algorithm OPTIONAL }

For more information, see RFC 2459: Internet X.509 Public **Key** (p. 1828) Infrastructure Certificate and CRL Profile.

A Format

This is the name of the format of the encoded key. It is returned by the getFormat method.

6.353.2 Constructor & Destructor Documentation

6.353.2.1 virtual decaf::security::Key::~Key () [virtual]

6.353.3 Member Function Documentation

6.353.3.1 virtual std::string decaf::security::Key::getAlgorithm () const [pure virtual]

Returns the standard algorithm name for this key. For example, "DSA" would indicate that this key is a DSA key.

Returns:

the name of the algorithm associated with this key.

6.353.3.2 virtual void decaf::security::Key::getEncoded (std::vector< unsigned char > & *output*) const [pure virtual]

Provides the key in its primary encoding format, or nothing if this key does not support encoding.

Parameters:

output Receives the encoded key, or nothing if the key does not support encoding.

6.353.3.3 virtual std::string decaf::security::Key::getFormat () const [pure virtual]

Returns the name of the primary encoding format of this key, or an empty string if this key does not support encoding. The primary encoding format is named in terms of the appropriate ASN.1 data format, if an ASN.1 specification for this key exists. For example, the name of the ASN.1 data format for public keys is SubjectPublicKeyInfo, as defined by the X.509 standard; in this case, the returned format is "X.509". Similarly, the name of the ASN.1 data format for private keys is PrivateKeyInfo, as defined by the PKCS #8 standard; in this case, the returned format is "PKCS#8".

Returns:

the primary encoding format of the key.

The documentation for this class was generated from the following file:

- src/main/decaf/security/**Key.h**

6.354 decaf::security::KeyException Class Reference

`#include <src/main/decaf/security/KeyException.h>`Inheritance diagram for decaf::security::KeyException:

Public Member Functions

- **KeyException** ()

  Default Constructor.

- **KeyException** (const **decaf::lang::Exception** &ex)

  Conversion Constructor from some other Exception.

- **KeyException** (const **KeyException** &ex)

  Copy Constructor.

- **KeyException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **KeyException** (const std::exception *cause)

  Constructor.

- **KeyException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **KeyException** * **clone** () const

  Clones this exception.

- virtual ~**KeyException** () throw ()

6.354.1 Constructor & Destructor Documentation

6.354.1.1 decaf::security::KeyException::KeyException ()

Default Constructor.

6.354.1.2 decaf::security::KeyException::KeyException (const decaf::lang::Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.354.1.3 decaf::security::KeyException::KeyException (const KeyException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.354.1.4 decaf::security::KeyException::KeyException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.354.1.5 decaf::security::KeyException::KeyException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.354.1.6 decaf::security::KeyException::KeyException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.354.1.7 virtual decaf::security::KeyException::~KeyException () throw () [virtual]

6.354.2 Member Function Documentation

6.354.2.1 virtual KeyException* decaf::security::KeyException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::GeneralSecurityException** (p. 1572).

Reimplemented in **decaf::security::InvalidKeyException** (p. 1765), and **decaf::security::KeyManagementException** (p. 1835).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**KeyException.h**

6.355 decaf::security::KeyManagementException Class Reference

`#include <src/main/decaf/security/KeyManagementException.h>`Inheritance diagram for decaf::security::KeyManagementException:

Public Member Functions

- **KeyManagementException** ()
  Default Constructor.
- **KeyManagementException** (const Exception &ex)
  Conversion Constructor from some other Exception.
- **KeyManagementException** (const **KeyManagementException** &ex)
  Copy Constructor.
- **KeyManagementException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **KeyManagementException** (const std::exception *cause)
  Constructor.
- **KeyManagementException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **KeyManagementException** * **clone** () const
  Clones this exception.
- virtual ~**KeyManagementException** () throw ()

6.355.1 Constructor & Destructor Documentation

6.355.1.1 decaf::security::KeyManagementException::KeyManagementException ()

Default Constructor.

6.355.1.2 decaf::security::KeyManagementException::KeyManagementException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.355.1.3 decaf::security::KeyManagementException::KeyManagementException (const KeyManagementException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.355.1.4 decaf::security::KeyManagementException::KeyManagementException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.355.1.5 decaf::security::KeyManagementException::KeyManagementException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.355.1.6 decaf::security::KeyManagementException::KeyManagementException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.355.1.7 virtual decaf::security::KeyManagementException::~KeyManagementException () throw () [virtual]

6.355.2 Member Function Documentation

6.355.2.1 virtual KeyManagementException* decaf::security::KeyManagementException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::KeyException** (p. 1832).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**KeyManagementException.h**

6.356 activemq::commands::LastPartialCommand Class Reference

`#include <src/main/activemq/commands/LastPartialCommand.h>`Inheritance diagram for activemq::commands::LastPartialCommand:

Public Member Functions

- **LastPartialCommand** ()
- virtual ~**LastPartialCommand** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **LastPartialCommand** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

Static Public Attributes

- static const unsigned char **ID_LASTPARTIALCOMMAND** = 61

6.356.1 Constructor & Destructor Documentation

6.356.1.1 activemq::commands::LastPartialCommand::LastPartialCommand ()

6.356.1.2 virtual activemq::commands::LastPartialCommand::~LastPartialCommand () [virtual]

6.356.2 Member Function Documentation

6.356.2.1 virtual LastPartialCommand* activemq::commands::LastPartialCommand::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::PartialCommand** (p. 2343).

6.356.2.2 virtual void activemq::commands::LastPartialCommand::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::PartialCommand** (p. 2343).

6.356.2.3 virtual bool activemq::commands::LastPartialCommand::equals (const DataStructure * *value*) const [virtual]

Reimplemented from **activemq::commands::PartialCommand** (p. 2343).

6.356.2.4 virtual unsigned char activemq::commands::LastPartialCommand::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::PartialCommand** (p. 2343).

6.356.2.5 virtual std::string activemq::commands::LastPartialCommand::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::PartialCommand** (p. 2344).

6.356.3 Field Documentation

6.356.3.1 const unsigned char activemq::commands::LastPartialCommand::ID_LASTPARTIALCOMMAND = 61 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**LastPartialCommand.h**

6.357 activemq::wireformat::openwire::marshal::generated::LastPartialC Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **LastPartialCommandMarshaller** (p. 1838).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/LastPartialCommandMarshaller.h`
diagram for activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller:

Public Member Functions

- **LastPartialCommandMarshaller** ()
- virtual ~**LastPartialCommandMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.357.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **LastPartialCommandMarshaller** (p. 1838). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.357.2 Constructor & Destructor Documentation

6.357.2.1 activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller::Las () [inline]

6.357.2.2 virtual activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller::~La () [inline, virtual]

6.357.3 Member Function Documentation

6.357.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller::create () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Reimplemented from **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2346).

6.357.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller::getDa () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Reimplemented from **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2346).

6.357.3.3 virtual void activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller::looseM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2346).

6.357.3.4 virtual void activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller::looseU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2347).

6.357.3.5 virtual int activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2347).

6.357.3.6 virtual void activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2348).

6.357.3.7 virtual void activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller::tightU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller** (p. 2348).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**LastPartialCommandMarshaller.h**

6.358 decaf::util::comparators::Less< E > Class Template Reference

Simple **Less** (p. 1842) **Comparator** (p. 1034) that compares to elements to determine if the first is less than the second.

`#include <src/main/decaf/util/comparators/Less.h>`Inheritance diagram for decaf::util::comparators::Less< E >:

Public Member Functions

- **Less** ()
- virtual ~**Less** ()
- virtual bool **operator()** (const E &left, const E &right) const

  *Implementation of the Binary function interface as a means of allowing a **Comparator** (p. 1034) to be passed to an STL **Map** (p. 1995) for use as the sorting criteria.*

- virtual int **compare** (const E &o1, const E &o2) const

  Compares its two arguments for order.

6.358.1 Detailed Description

template<typename E> class decaf::util::comparators::Less< E >

Simple **Less** (p. 1842) **Comparator** (p. 1034) that compares to elements to determine if the first is less than the second. This can be used in **Collection** (p. 1000) classes to sort elements according to their natural ordering. By design the Comparator's compare function return more information about comparison than the STL binary function's boolean compare operator. In this case the compare method will return

Since:

1.0

6.358.2 Constructor & Destructor Documentation

6.358.2.1 template<typename E > decaf::util::comparators::Less< E >::Less () [inline]

6.358.2.2 template<typename E > virtual decaf::util::comparators::Less< E >::~Less () [inline, virtual]

6.358.3 Member Function Documentation

6.358.3.1 template<typename E > virtual int decaf::util::comparators::Less< E >::compare (const E & *o1*, const E & *o2*) const [inline, virtual]

Compares its two arguments for order. Returns a negative integer, zero, or a positive integer as the first argument is less than, equal to, or greater than the second.

The implementor must ensure that sgn(compare(x, y)) == -sgn(compare(y, x)) for all x and y. (This implies that compare(x, y) must throw an exception if and only if compare(y, x) throws an exception.)

The implementor must also ensure that the relation is transitive: ((compare(x, y)>0) && (compare(y, z)>0)) implies compare(x, z)>0.

Finally, the implementer must ensure that compare(x, y)==0 implies that sgn(compare(x, z))==sgn(compare(y, z)) for all z.

It is generally the case, but not strictly required that (compare(x, y)==0) == (x == y)). Generally speaking, any comparator that violates this condition should clearly indicate this fact. The recommended language is "Note: this comparator imposes orderings that are inconsistent with equals."

Parameters:

o1 The first object to be compared

o2 The second object to be compared

Returns:

a negative integer, zero, or a positive integer as the first argument is less than, equal to, or greater than the second.

Implements **decaf::util::Comparator< E >** (p. 1034).

6.358.3.2 template<typename E > virtual bool decaf::util::comparators::Less< E >::operator() (const E & *left*, const E & *right*) const [inline, virtual]

Implementation of the Binary function interface as a means of allowing a **Comparator** (p. 1034) to be passed to an STL **Map** (p. 1995) for use as the sorting criteria.

Parameters:

left The Left hand side operand.

right The Right hand side operand.

Returns:

true if the vale of left is less than the value of right.

Implements **decaf::util::Comparator< E >** (p. 1035).

The documentation for this class was generated from the following file:

- src/main/decaf/util/comparators/**Less.h**

6.359 std::less< decaf::lang::ArrayPointer< T > > Struct Template Reference

An override of the less function object so that the Pointer objects can be stored in STL Maps, etc.

`#include <src/main/decaf/lang/ArrayPointer.h>`

Public Types

- typedef **decaf::lang::ArrayPointer**< T > **first_argument_type**
- typedef **decaf::lang::ArrayPointer**< T > **second_argument_type**
- typedef bool **result_type**

Public Member Functions

- bool **operator()** (const **decaf::lang::ArrayPointer**< T > &left, const **decaf::lang::ArrayPointer**< T > &right) const

6.359.1 Detailed Description

template<typename T> struct std::less< decaf::lang::ArrayPointer< T > >

An override of the less function object so that the Pointer objects can be stored in STL Maps, etc.

6.359.2 Member Typedef Documentation

6.359.2.1 template<typename T > typedef decaf::lang::ArrayPointer<T> std::less< decaf::lang::ArrayPointer< T > >::first_argument_type

6.359.2.2 template<typename T > typedef bool std::less< decaf::lang::ArrayPointer< T > >::result_type

6.359.2.3 template<typename T > typedef decaf::lang::ArrayPointer<T> std::less< decaf::lang::ArrayPointer< T > >::second_argument_type

6.359.3 Member Function Documentation

6.359.3.1 template<typename T > bool std::less< decaf::lang::ArrayPointer< T > >::operator() (const decaf::lang::ArrayPointer< T > & *left*, const decaf::lang::ArrayPointer< T > & *right*) const [inline]

References decaf::lang::ArrayPointer< T >::get().

The documentation for this struct was generated from the following file:

- src/main/decaf/lang/**ArrayPointer.h**

6.360 std::less< decaf::lang::Pointer< T > > Struct Template Reference

An override of the less function object so that the Pointer objects can be stored in STL Maps, etc.

`#include <src/main/decaf/lang/Pointer.h>`

Public Types

- typedef **decaf::lang::Pointer**< T > **first_argument_type**
- typedef **decaf::lang::Pointer**< T > **second_argument_type**
- typedef bool **result_type**

Public Member Functions

- bool **operator()** (const **decaf::lang::Pointer**< T > &left, const **decaf::lang::Pointer**< T > &right) const

6.360.1 Detailed Description

template<typename T> struct std::less< decaf::lang::Pointer< T > >

An override of the less function object so that the Pointer objects can be stored in STL Maps, etc.

6.360.2 Member Typedef Documentation

6.360.2.1 template<typename T > typedef decaf::lang::Pointer<T> std::less< decaf::lang::Pointer< T > >::first_argument_type

6.360.2.2 template<typename T > typedef bool std::less< decaf::lang::Pointer< T > >::result_type

6.360.2.3 template<typename T > typedef decaf::lang::Pointer<T> std::less< decaf::lang::Pointer< T > >::second_argument_type

6.360.3 Member Function Documentation

6.360.3.1 template<typename T > bool std::less< decaf::lang::Pointer< T > >::operator() (const decaf::lang::Pointer< T > & *left*, const decaf::lang::Pointer< T > & *right*) const [inline]

References decaf::lang::Pointer< T, REFCOUNTER >::get().

The documentation for this struct was generated from the following file:

- src/main/decaf/lang/**Pointer.h**

6.361 decaf::util::logging::Level Class Reference

The **Level** (p. 1846) class defines a set of standard **logging** (p. 134) levels that can be used to control **logging** (p. 134) output.

`#include <src/main/decaf/util/logging/Level.h>`Inheritance diagram for decaf::util::logging::Level:

Public Member Functions

- virtual ~**Level** ()
- int **intValue** () const
- std::string **getName** () const
- std::string **toString** () const
- virtual int **compareTo** (const **Level** &value) const
- virtual bool **equals** (const **Level** &value) const
- virtual bool **operator==** (const **Level** &value) const
- virtual bool **operator<** (const **Level** &value) const

Static Public Member Functions

- static **Level parse** (const std::string &name)

  *Parse a level name string into a **Level** (p. 1846).*

Static Public Attributes

- static const **Level INHERIT**

  *NULL is a special level that indicates that the **Logger** (p. 1922) should get its **Level** (p. 1846) from its parent **Logger** (p. 1922), the value is initialized as zero.*

- static const **Level OFF**

  *OFF is a special level that can be used to turn off **logging** (p. 134).*

- static const **Level SEVERE**

  SEVERE is a message level indicating a serious failure.

- static const **Level WARNING**

  WARNING is a message level indicating a potential problem.

- static const **Level INFO**

  INFO is a message level for informational messages.

- static const **Level DEBUG**

  DEBUG is a level for more verbose informative messages.

- static const **Level CONFIG**

  CONFIG is a message level for static configuration messages.

- static const **Level FINE**

  FINE is a message level providing tracing information.

- static const **Level FINER**

  FINER indicates a fairly detailed tracing message.

- static const **Level FINEST**

  FINEST indicates a highly detailed tracing message.

- static const **Level ALL**

  ALL indicates that all messages should be logged.

Protected Member Functions

- **Level** (const std::string &name, int value)

  *Create a named **Level** (p. 1846) with a given integer value.*

6.361.1 Detailed Description

The **Level** (p. 1846) class defines a set of standard **logging** (p. 134) levels that can be used to control **logging** (p. 134) output. The **logging** (p. 134) **Level** (p. 1846) objects are ordered and are specified by ordered integers. Enabling **logging** (p. 134) at a given level also enables **logging** (p. 134) at all higher levels.

Clients should normally use the predefined **Level** (p. 1846) constants such as **Level.SEVERE** (p. 1850).

The levels in descending order are:

* SEVERE (highest value) * WARNING * INFO * DEBUG * CONFIG * FINE * FINER * FINEST (lowest value)

In addition there is a level OFF that can be used to turn off **logging** (p. 134), and a level ALL that can be used to enable **logging** (p. 134) of all messages.

It is possible for third parties to define additional **logging** (p. 134) levels by subclassing **Level** (p. 1846). In such cases subclasses should take care to chose unique integer level values.

Since:

1.0

6.361.2 Constructor & Destructor Documentation

6.361.2.1 decaf::util::logging::Level::Level (const std::string & *name*, int *value*) [protected]

Create a named **Level** (p. 1846) with a given integer value.

Parameters:

name Name of the level, e.g. SEVERE

value Unique integer value of this level, e.g. 100

6.361.2.2 virtual decaf::util::logging::Level::~Level () [virtual]

6.361.3 Member Function Documentation

6.361.3.1 virtual int decaf::util::logging::Level::compareTo (const Level & *value*) const [virtual]

6.361.3.2 virtual bool decaf::util::logging::Level::equals (const Level & *value*) const [virtual]

6.361.3.3 std::string decaf::util::logging::Level::getName () const [inline]

Returns:

the name of this **Level** (p. 1846) instance.

6.361.3.4 int decaf::util::logging::Level::intValue () const [inline]

Returns:

the integer value of this level instance.

6.361.3.5 virtual bool decaf::util::logging::Level::operator< (const Level & *value*) const [virtual]

6.361.3.6 virtual bool decaf::util::logging::Level::operator== (const Level & *value*) const [virtual]

6.361.3.7 static Level decaf::util::logging::Level::parse (const std::string & *name*) [static]

Parse a level name string into a **Level** (p. 1846). The argument string may consist of either a level name or an integer value.

For example:

∗ "SEVERE" ∗ "1000"

Parameters:

name - The name or int value of the desired **Level** (p. 1846)

Returns:

the parsed **Level** (p. 1846) value, passing in a level name that is an int value that is not one of the known **Level** (p. 1846) values will result in a new **Level** (p. 1846) that has been initialized with that int value and name as the string form of the int.

Exceptions:

IllegalArgumentException if the value is not valid, validity means that the string is either a valid int (between Integer::MIN_VALUE and Integer::MAX_VALUE or is one of the known level names.

6.361.3.8 std::string decaf::util::logging::Level::toString () const [inline]

Returns:

the string value of this **Level** (p. 1846), e.g. "SEVERE".

6.361.4 Field Documentation

6.361.4.1 const Level decaf::util::logging::Level::ALL [static]

ALL indicates that all messages should be logged. This level is initialized to Integer::MIN_-VALUE.

6.361.4.2 const Level decaf::util::logging::Level::CONFIG [static]

CONFIG is a message level for static configuration messages. CONFIG messages are intended to provide a variety of static configuration information, to assist in debugging problems that may be associated with particular configurations. For example, CONFIG message might include the CPU type, the System properties, etc. This level is initialized to 600.

6.361.4.3 const Level decaf::util::logging::Level::DEBUG [static]

DEBUG is a level for more verbose informative messages. DEBUG messages are intended to provide a more detailed message intended for use by developers in tracking the behavior of a client. DEBUG messages typically contain more implementation specific information that might not be significant to end users or system admins. This level is initialized to 700.

6.361.4.4 const Level decaf::util::logging::Level::FINE [static]

FINE is a message level providing tracing information. All of FINE, FINER, and FINEST are intended for relatively detailed tracing. The exact meaning of the three levels will vary between subsystems, but in general, FINEST should be used for the most detailed output, FINER for somewhat less detailed output, and FINE for the lowest volume (and most important) messages.

In general the FINE level should be used for information that will be broadly interesting to developers who do not have a specialized interest in the specific subsystem.

FINE messages might include things like minor (recoverable) failures. Issues indicating potential performance problems are also worth **logging** (p. 134) as FINE. This level is initialized to 500.

6.361.4.5 const Level decaf::util::logging::Level::FINER [static]

FINER indicates a fairly detailed tracing message. By default **logging** (p. 134) calls for entering, returning, or throwing an exception are traced at this level. This level is initialized to 400.

6.361.4.6 const Level decaf::util::logging::Level::FINEST [static]

FINEST indicates a highly detailed tracing message. This level is initialized to 300.

6.361.4.7 const Level decaf::util::logging::Level::INFO [static]

INFO is a message level for informational messages. Typically INFO messages will be written to the console or its equivalent. So the INFO level should only be used for reasonably significant messages that will make sense to end users and system admins. This level is initialized to 800.

6.361.4.8 const Level decaf::util::logging::Level::INHERIT [static]

NULL is a special level that indicates that the **Logger** (p. 1922) should get its **Level** (p. 1846) from its parent **Logger** (p. 1922), the value is initialized as zero.

6.361.4.9 const Level decaf::util::logging::Level::OFF [static]

OFF is a special level that can be used to turn off **logging** (p. 134). This level is initialized to Integer::MAX_VALUE

6.361.4.10 const Level decaf::util::logging::Level::SEVERE [static]

SEVERE is a message level indicating a serious failure. In general SEVERE messages should describe events that are of considerable importance and which will prevent normal program execution. They should be reasonably intelligible to end users and to system administrators. This level is initialized to 1000.

6.361.4.11 const Level decaf::util::logging::Level::WARNING [static]

WARNING is a message level indicating a potential problem. In general WARNING messages should describe events that will be of interest to end users or system managers, or which indicate potential problems. This level is initialized to 900.

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**Level.h**

6.362 decaf::util::concurrent::LinkedBlockingQueue< E > Class Template Reference

A **BlockingQueue** (p. 684) derivative that allows for a bound to be placed on the number of elements that can be enqueued at any one time.

`#include <src/main/decaf/util/concurrent/LinkedBlockingQueue.h>`Inheritance diagram for decaf::util::concurrent::LinkedBlockingQueue< E >:

Data Structures

- class **ConstLinkedIterator**
- class **LinkedIterator**
- class **QueueNode**
- class **TotalLock**

Public Member Functions

- **LinkedBlockingQueue** ()

  Create a new instance with a Capacity of Integer::MAX_ VALUE.

- **LinkedBlockingQueue** (int capacity)

  Create a new instance with the given initial capacity value.

- **LinkedBlockingQueue** (const **Collection**< E > &collection)

  *Create a new instance with a Capacity of Integer::MAX_ VALUE and adds all the values contained in the specified collection to this **Queue** (p. 2500).*

- **LinkedBlockingQueue** (const **LinkedBlockingQueue** &queue)

  *Create a new instance with a Capacity of Integer::MAX_ VALUE and adds all the values contained in the specified **LinkedBlockingQueue** (p. 1851) to this **Queue** (p. 2500).*

- virtual ~**LinkedBlockingQueue** ()
- **LinkedBlockingQueue**< E > & **operator**= (const **LinkedBlockingQueue**< E > &queue)

  Assignment Operator, copy element from the source collection to this collection after clearing any element stored in this collection.

- **LinkedBlockingQueue**< E > & **operator**= (const **Collection**< E > &collection)
- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).
  The collection will be empty after this method returns.
  *This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.*

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException *if the clear operation is not supported by this collection*

This implementation repeatedly invokes poll until it returns false.

- virtual int **remainingCapacity** () const

  Returns the number of additional elements that this queue can ideally (in the absence of memory or resource constraints) accept without blocking, or `Integer::MAX_VALUE` *if there is no intrinsic limit.*

- virtual void **put** (const E &value)

  Inserts the specified element into this queue, waiting if necessary for space to become available.

- virtual bool **offer** (const E &value, long long timeout, const **TimeUnit** &unit)

  Inserts the specified element into this queue, waiting up to the specified wait time if necessary for space to become available.

- virtual bool **offer** (const E &value)

  Inserts the specified element into the queue provided that the condition allows such an operation.

- virtual E **take** ()

  Retrieves and removes the head of this queue, waiting if necessary until an element becomes available.

- virtual bool **poll** (E &result, long long timeout, const **TimeUnit** &unit)

  Retrieves and removes the head of this queue, waiting up to the specified wait time if necessary for an element to become available.

- virtual bool **poll** (E &result)

  Gets and removes the element in the head of the queue.

- virtual bool **peek** (E &result) const

  Gets but not removes the element in the head of the queue.

- virtual bool **remove** (const E &value)

  Removes a single instance of the specified element from the collection.
  More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

  Parameters:

  value *The reference to the element to remove from this* ***Collection*** *(*p. *1000).*

  Returns:

  true if the collection was changed, false otherwise.

  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(*p. *1000) is a container of pointers and does not allow NULL values.*

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.
Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

- virtual std::vector< E > **toArray** () const

  Answers an STL vector containing copies of all elements contained in this ***Collection*** *(*p. 1000*).*

- virtual std::string **toString** () const
- virtual int **drainTo** (**Collection**< E > &c)

  Removes all available elements from this queue and adds them to the given collection.

- virtual int **drainTo** (**Collection**< E > &sink, int maxElements)

  Removes at most the given number of available elements from this queue and adds them to the given collection.

- virtual **decaf::util::Iterator**< E > * **iterator** ()
- virtual **decaf::util::Iterator**< E > * **iterator** () const

6.362.1 Detailed Description

template<typename E> class decaf::util::concurrent::LinkedBlockingQueue< E >

A **BlockingQueue** (p. 684) derivative that allows for a bound to be placed on the number of elements that can be enqueued at any one time. Elements are inserted and removed in FIFO order. The **internal** (p. 96) structure of the queue is based on a linked nodes which provides for better performance over their array based versions but the performance is less predictable.

The capacity bound of this class default to Integer::MAX_VALUE.

Since:

1.0

6.362.2 Constructor & Destructor Documentation

6.362.2.1 template<typename E> decaf::util::concurrent::LinkedBlockingQueue< E >::LinkedBlockingQueue () [inline]

Create a new instance with a Capacity of Integer::MAX_VALUE.

6.362.2.2 template<typename E> decaf::util::concurrent::LinkedBlockingQueue< E >::LinkedBlockingQueue (int *capacity*) [inline]

Create a new instance with the given initial capacity value.

Parameters:

capacity The initial capacity value to assign to this **Queue** (p. 2500).

Exceptions:

IllegalArgumentException if the specified capacity is not greater than zero.

6.362.2.3 template<typename E> decaf::util::concurrent::LinkedBlockingQueue< E >::LinkedBlockingQueue (const Collection< E > & *collection*) [inline]

Create a new instance with a Capacity of Integer::MAX_VALUE and adds all the values contained in the specified collection to this **Queue** (p. 2500).

Parameters:

collection The **Collection** (p. 1000) whose elements are to be copied to this **Queue** (p. 2500).

Exceptions:

IllegalStateException if the number of elements in the collection exceeds this Queue's capacity.

6.362.2.4 template<typename E> decaf::util::concurrent::LinkedBlockingQueue< E >::LinkedBlockingQueue (const LinkedBlockingQueue< E > & *queue*) [inline]

Create a new instance with a Capacity of Integer::MAX_VALUE and adds all the values contained in the specified **LinkedBlockingQueue** (p. 1851) to this **Queue** (p. 2500).

Parameters:

queue The **LinkedBlockingQueue** (p. 1851) whose elements are to be copied to this **Queue** (p. 2500).

Exceptions:

IllegalStateException if the number of elements in the collection exceeds this Queue's capacity.

6.362.2.5 template<typename E> virtual decaf::util::concurrent::LinkedBlockingQueue< E >::~LinkedBlockingQueue () [inline, virtual]

6.362.3 Member Function Documentation

6.362.3.1 template<typename E> virtual void decaf::util::concurrent::LinkedBlockingQueue< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation).

The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

This implementation repeatedly invokes poll until it returns false. This implementation repeatedly invokes poll until it returns false.

Reimplemented from **decaf::util::AbstractQueue< E >** (p. 177).

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::operator=().

6.362.3.2 template<typename E> virtual int decaf::util::concurrent::LinkedBlockingQueue< E >::drainTo (Collection< E > & *c*, int *maxElements*) [inline, virtual]

Removes at most the given number of available elements from this queue and adds them to the given collection. A failure encountered while attempting to add elements to collection `c` may result in elements being in neither, either or both collections when the associated exception is thrown. Attempts to drain a queue to itself result in `IllegalArgumentException`. Further, the behavior of this operation is undefined if the specified collection is modified while the operation is in progress.

Parameters:

c the collection to transfer elements into

maxElements the maximum number of elements to transfer

Returns:

the number of elements transferred

Exceptions:

UnsupportedOperationException if addition of elements is not supported by the specified collection

IllegalArgumentException if the specified collection is this queue, or some property of an element of this queue prevents it from being added to the specified collection

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 686).

6.362.3.3 template<typename E> virtual int decaf::util::concurrent::LinkedBlockingQueue< E >::drainTo (Collection< E > & *c*) [inline, virtual]

Removes all available elements from this queue and adds them to the given collection. This operation may be more efficient than repeatedly polling this queue. A failure encountered while attempting to add elements to collection `c` may result in elements being in neither, either or both collections when the associated exception is thrown. Attempts to drain a queue to itself result in `IllegalArgumentException`. Further, the behavior of this operation is undefined if the specified collection is modified while the operation is in progress.

Parameters:

c the collection to transfer elements into

Returns:

the number of elements transferred

Exceptions:

UnsupportedOperationException if addition of elements is not supported by the specified collection

IllegalArgumentException if the specified collection is this queue, or some property of an element of this queue prevents it from being added to the specified collection

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 687).

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::drainTo().

6.362.3.4 template<typename E> virtual decaf::util::Iterator<E>* decaf::util::concurrent::LinkedBlockingQueue< E >::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< E >** (p. 1786).

6.362.3.5 template<typename E> virtual decaf::util::Iterator<E>* decaf::util::concurrent::LinkedBlockingQueue< E >::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< E >** (p. 1787).

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::LinkedBlockingQueue().

6.362.3.6 template<typename E> virtual bool decaf::util::concurrent::LinkedBlockingQueue< E >::offer (const E & *value*) [inline, virtual]

Inserts the specified element into the queue provided that the condition allows such an operation. The method is generally preferable to the collection.add(E), since the latter might throw an exception if the operation fails.

Parameters:

value the specified element to insert into the queue.

Returns:

true if the operation succeeds and false if it fails.

Exceptions:

NullPointerException if the **Queue** (p. 2500) implementation does not allow Null values to be inserted into the **Queue** (p. 2500).

IllegalArgumentException if some property of the specified element prevents it from being added to this queue

Implements **decaf::util::Queue< E >** (p. 2501).

6.362.3.7 template<typename E> virtual bool decaf::util::concurrent::LinkedBlockingQueue< E >::offer (const E & *e*, long long *timeout*, const TimeUnit & *unit*) [inline, virtual]

Inserts the specified element into this queue, waiting up to the specified wait time if necessary for space to become available.

Parameters:

e the element to add

timeout how long to wait before giving up, in units of `unit`

unit a `TimeUnit` (p. 3072) determining how to interpret the `timeout` parameter

Returns:

`true` if successful, or `false` if the specified waiting time elapses before space is available

Exceptions:

InterruptedException if interrupted while waiting

NullPointerException if the specified element is null

IllegalArgumentException if some property of the specified element prevents it from being added to this queue

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 687).

6.362.3.8 template<typename E> LinkedBlockingQueue<E>& decaf::util::concurrent::LinkedBlockingQueue< E >::operator= (const Collection< E > & *collection*) [inline]

6.362.3.9 template<typename E> LinkedBlockingQueue<E>& decaf::util::concurrent::LinkedBlockingQueue< E >::operator= (const LinkedBlockingQueue< E > & *collection*) [inline]

Assignment Operator, copy element from the source collection to this collection after clearing any element stored in this collection.

Parameters:

collection - the collection to copy

Returns:

a reference to this collection

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 148).

6.362.3.10 template<typename E> virtual bool decaf::util::concurrent::LinkedBlockingQueue< E >::peek (E & *result*) const [inline, virtual]

Gets but not removes the element in the head of the queue. The result if successful is assigned to the result parameter.

Parameters:

result Reference to an instance of the contained type to assigned the removed value to.

Returns:

true if the element at the head of the queue was removed and assigned to the result parameter.

Implements **decaf::util::Queue< E >** (p. 2502).

6.362.3.11 template<typename E> virtual bool decaf::util::concurrent::LinkedBlockingQueue< E >::poll (E & *result*) [inline, virtual]

Gets and removes the element in the head of the queue. If the operation succeeds the value of the element at the head of the **Queue** (p. 2500) is assigned to the result parameter and the method returns true. If the operation fails the method returns false and the value of the result parameter is undefined.

Parameters:

result Reference to an instance of the contained type to assigned the removed value to.

Returns:

true if the element at the head of the queue was removed and assigned to the result parameter.

Implements **decaf::util::Queue< E >** (p. 2502).

6.362.3.12 template<typename E> virtual bool decaf::util::concurrent::LinkedBlockingQueue< E >::poll (E & *result*, long long *timeout*, const TimeUnit & *unit*) [inline, virtual]

Retrieves and removes the head of this queue, waiting up to the specified wait time if necessary for an element to become available.

Parameters:

result the referenced value that will be assigned the value retrieved from the **Queue** (p. 2500). Undefined if this methods returned false.

timeout how long to wait before giving up, in units of `unit`

unit a `TimeUnit` (p. 3072) determining how to interpret the `timeout` parameter.

Returns:

`true` if successful or `false` if the specified waiting time elapses before an element is available.

Exceptions:

InterruptedException if interrupted while waiting

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 688).

6.362.3.13 template<typename E> virtual void decaf::util::concurrent::LinkedBlockingQueue< E >::put (const E & *value*) [inline, virtual]

Inserts the specified element into this queue, waiting if necessary for space to become available.

Parameters:

value the element to add

Exceptions:

InterruptedException if interrupted while waiting

NullPointerException if the specified element is null

IllegalArgumentException if some property of the specified element prevents it from being added to this queue

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 688).

6.362.3.14 template<typename E> virtual int decaf::util::concurrent::LinkedBlockingQueue< E >::remainingCapacity () const [inline, virtual]

Returns the number of additional elements that this queue can ideally (in the absence of memory or resource constraints) accept without blocking, or `Integer::MAX_VALUE` if there is no intrinsic limit. Note that you *cannot* always tell if an attempt to insert an element will succeed by inspecting `remainingCapacity` because it may be the case that another thread is about to insert or remove an element.

Returns:

the remaining capacity

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 689).

6.362.3.15 template<typename E> virtual bool decaf::util::concurrent::LinkedBlockingQueue< E >::remove (const E & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object. This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 149).

6.362.3.16 template<typename E> virtual int decaf::util::concurrent::LinkedBlockingQueue< E >::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< E >** (p. 1009).

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::toArray().

6.362.3.17 template<typename E> virtual E decaf::util::concurrent::LinkedBlockingQueue< E >::take () [inline, virtual]

Retrieves and removes the head of this queue, waiting if necessary until an element becomes available.

Returns:

the head of this queue

Exceptions:

InterruptedException if interrupted while waiting

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 689).

6.362.3.18 template<typename E> virtual std::vector<E> decaf::util::concurrent::LinkedBlockingQueue< E >::toArray () const [inline, virtual]

Answers an STL vector containing copies of all elements contained in this **Collection** (p. 1000). All the elements in the array will not be referenced by the collection. The elements in the returned array will be sorted to the same order as those returned by the iterator of this collection itself if the collection guarantees the order.

Returns:

an vector of copies of all the elements from this **Collection** (p. 1000)

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 150).

6.362.3.19 template<typename E> virtual std::string decaf::util::concurrent::LinkedBlockingQueue< E >::toString () const [inline, virtual]

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::toString().

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**LinkedBlockingQueue.h**

6.363 decaf::util::LinkedHashMap< K, V, HASHCODE > Class Template Reference

Hashed and linked list implementation of the **Map** (p. 1995) interface, with predictable iteration order.

`#include <src/main/decaf/util/LinkedHashMap.h>`Inheritance diagram for decaf::util::LinkedHashMap< K, V, HASHCODE >:

Data Structures

- class **AbstractMapIterator**
- class **ConstAbstractMapIterator**
- class **ConstEntryIterator**
- class **ConstKeyIterator**
- class **ConstLinkedHashMapEntrySet**
- class **ConstLinkedHashMapKeySet**
- class **ConstLinkedHashMapValueCollection**
- class **ConstValueIterator**
- class **EntryIterator**
- class **KeyIterator**
- class **LinkedHashMapEntry**
- class **LinkedHashMapEntrySet**
- class **LinkedHashMapKeySet**
- class **LinkedHashMapValueCollection**
- class **ValueIterator**

Public Member Functions

- **LinkedHashMap** ()

  *Constructs an empty insertion-ordered **LinkedHashMap** (p. 1862) instance with the default initial capacity (16) and load factor (0.75).*

- **LinkedHashMap** (int capacity)

  *Constructs a new **LinkedHashMap** (p. 1862) instance with the specified capacity.*

6.363.1 Detailed Description

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::LinkedHashMap< K, V, HASHCODE >

Hashed and linked list implementation of the **Map** (p. 1995) interface, with predictable iteration order. This implementation differs from **HashMap** (p. 1600) in that it maintains a doubly-linked list running through all of its entries. This linked list defines the iteration ordering, which is normally the order in which keys were inserted into the map (insertion-order). Note that insertion order is not affected if a key is re-inserted into the map. (A key k is reinserted into a map

m if m.put(k, v) is invoked when m.containsKey(k) would return true immediately prior to the invocation.)

This implementation spares its clients from the unspecified, generally chaotic ordering provided by **HashMap** (p. 1600), without incurring the increased cost associated with TreeMap. It can be used to produce a copy of a map that has the same order as the original, regardless of the original map's implementation:

void foo(Map m) { **Map** (p. 1995) copy = new LinkedHashMap(m); ... }

This technique is particularly useful if a module takes a map on input, copies it, and later returns results whose order is determined by that of the copy. (Clients generally appreciate having things returned in the same order they were presented.)

A special constructor is provided to create a linked hash map whose order of iteration is the order in which its entries were last accessed, from least-recently accessed to most-recently (access-order). This kind of map is well-suited to building LRU caches. Invoking the put or get method results in an access to the corresponding entry (assuming it exists after the invocation completes). The putAll method generates one entry access for each mapping in the specified map, in the order that key-value mappings are provided by the specified map's entry set iterator. No other methods generate entry accesses. In particular, operations on collection-views do not affect the order of iteration of the backing map.

The removeEldestEntry(MapEntry) method may be overridden to impose a policy for removing stale mappings automatically when new mappings are added to the map. When the entries are about to be removed from the map the onEviction method is called giving subclasses a chance to delete pointer values or perform other cleanup prior to the mapping being removed.

This class provides all of the optional **Map** (p. 1995) operations. Like **HashMap** (p. 1600), it provides constant-time performance for the basic operations (add, contains and remove), assuming the hash function disperses elements properly among the buckets. Performance is likely to be just slightly below that of **HashMap** (p. 1600), due to the added expense of maintaining the linked list, with one exception: Iteration over the collection-views of a **LinkedHashMap** (p. 1862) requires time proportional to the size of the map, regardless of its capacity. Iteration over a **HashMap** (p. 1600) is likely to be more expensive, requiring time proportional to its capacity.

A linked hash map has two parameters that affect its performance: initial capacity and load factor. They are defined precisely as for **HashMap** (p. 1600). Note, however, that the penalty for choosing an excessively high value for initial capacity is less severe for this class than for **HashMap** (p. 1600), as iteration times for this class are unaffected by capacity.

Note that this implementation is not synchronized. If multiple threads access a linked hash map concurrently, and at least one of the threads modifies the map structurally, it must be synchronized externally. This is typically accomplished by synchronizing on some object that naturally encapsulates the map. If no such object exists, the map should be "wrapped" using the Collections.synchronizedMap method. This is best done at creation time, to prevent accidental unsynchronized access to the map:

Map<K,V>* m = Collections::synchronizedMap(new **LinkedHashMap** (p. 1862)(...));

A structural modification is any operation that adds or deletes one or more mappings or, in the case of access-ordered linked hash maps, affects iteration order. In insertion-ordered linked hash maps, merely changing the value associated with a key that is already contained in the map is not a structural modification. In access-ordered linked hash maps, merely querying the map with get is a structural modification.)

The iterators returned by the iterator method of the collections returned by all of this class's collection view methods are fail-fast: if the map is structurally modified at any time after the iterator is created, in any way except through the iterator's own remove method, the iterator

will throw a **ConcurrentModificationException** (p. 1050). Thus, in the face of **concurrent** (p. 129) modification, the iterator fails quickly and cleanly, rather than risking arbitrary, non-deterministic behavior at an undetermined time in the future.

Note that the fail-fast behavior of an iterator cannot be guaranteed as it is, generally speaking, impossible to make any hard guarantees in the presence of unsynchronized **concurrent** (p. 129) modification. Fail-fast iterators throw **ConcurrentModificationException** (p. 1050) on a best-effort basis. Therefore, it would be wrong to write a program that depended on this exception for its correctness: the fail-fast behavior of iterators should be used only to detect bugs.

Since:

1.0

6.363.2 Constructor & Destructor Documentation

6.363.2.1 template<typename K , typename V , typename HASHCODE = HashCode<K>> decaf::util::LinkedHashMap< K, V, HASHCODE >::LinkedHashMap () [inline]

Constructs an empty insertion-ordered **LinkedHashMap** (p. 1862) instance with the default initial capacity (16) and load factor (0.75).

6.363.2.2 template<typename K , typename V , typename HASHCODE = HashCode<K>> decaf::util::LinkedHashMap< K, V, HASHCODE >::LinkedHashMap (int *capacity*) [inline]

Constructs a new **LinkedHashMap** (p. 1862) instance with the specified capacity.

Parameters:

capacity The initial capacity of this map.

Exceptions:

IllegalArgumentException if the capacity is less than zero.

The documentation for this class was generated from the following file:

- src/main/decaf/util/**LinkedHashMap.h**

6.364 decaf::util::LinkedHashSet< E, HASHCODE > Class Template Reference

Hash table and linked list implementation of the **Set** (p. 2700) interface, with predictable iteration order.

`#include <src/main/decaf/util/LinkedHashSet.h>`Inheritance diagram for decaf::util::LinkedHashSet< E, HASHCODE >:

Public Member Functions

- **LinkedHashSet** ()

  *Constructs a new, empty set; the backing **HashMap** (p. 1600) instance has default initial capacity (16) and load factor (0.75).*

- **LinkedHashSet** (int capacity)

  *Constructs a new, empty set; the backing **HashMap** (p. 1600) instance has the specified initial capacity and default load factor (0.75).*

6.364.1 Detailed Description

template<typename E, typename HASHCODE = HashCode<E>> class decaf::util::LinkedHashSet< E, HASHCODE >

Hash table and linked list implementation of the **Set** (p. 2700) interface, with predictable iteration order. This implementation differs from **HashSet** (p. 1628) in that it maintains a doubly-linked list running through all of its entries. This linked list defines the iteration ordering, which is the order in which elements were inserted into the set (insertion-order). Note that insertion order is not affected if an element is re-inserted into the set. (An element e is reinserted into a set s if s.add(e) is invoked when s.contains(e) would return true immediately prior to the invocation.)

This implementation spares its clients from the unspecified, generally chaotic ordering provided by **HashSet** (p. 1628), without incurring the increased cost associated with TreeSet. It can be used to produce a copy of a set that has the same order as the original, regardless of the original set's implementation:

void foo(const Set<E& s) { Set<E>* copy = new LinkedHashSet<E>(s); ... }

This technique is particularly useful if a module takes a set on input, copies it, and later returns results whose order is determined by that of the copy. (Clients generally appreciate having things returned in the same order they were presented.)

This class provides all of the optional **Set** (p. 2700) operations, and permits null elements. Like **HashSet** (p. 1628), it provides constant-time performance for the basic operations (add, contains and remove), assuming the hash function disperses elements properly among the buckets. Performance is likely to be just slightly below that of **HashSet** (p. 1628), due to the added expense of maintaining the linked list, with one exception: Iteration over a **LinkedHashSet** (p. 1865) requires time proportional to the size of the set, regardless of its capacity. Iteration over a **HashSet** (p. 1628) is likely to be more expensive, requiring time proportional to its capacity.

A linked hash set has two parameters that affect its performance: initial capacity and load factor. They are defined precisely as for **HashSet** (p. 1628). Note, however, that the penalty for choosing

an excessively high value for initial capacity is less severe for this class than for **HashSet** (p. 1628), as iteration times for this class are unaffected by capacity.

Note that this implementation is not synchronized. If multiple threads access a linked hash set concurrently, and at least one of the threads modifies the set, it must be synchronized externally. This is typically accomplished by synchronizing on some object that naturally encapsulates the set. If no such object exists, the set should be "wrapped" using the Collections.synchronizedSet method. This is best done at creation time, to prevent accidental unsynchronized access to the set:

Set<E>* s = Collections::synchronizedSet(new LinkedHashSet<E>(...));

The iterators returned by this class's iterator method are fail-fast: if the set is modified at any time after the iterator is created, in any way except through the iterator's own remove method, the iterator will throw a **ConcurrentModificationException** (p. 1050). Thus, in the face of **concurrent** (p. 129) modification, the iterator fails quickly and cleanly, rather than risking arbitrary, non-deterministic behavior at an undetermined time in the future.

Note that the fail-fast behavior of an iterator cannot be guaranteed as it is, generally speaking, impossible to make any hard guarantees in the presence of unsynchronized **concurrent** (p. 129) modification. Fail-fast iterators throw **ConcurrentModificationException** (p. 1050) on a best-effort basis. Therefore, it would be wrong to write a program that depended on this exception for its correctness: the fail-fast behavior of iterators should be used only to detect bugs.

Since:

1.0

6.364.2 Constructor & Destructor Documentation

6.364.2.1 template<typename E , typename HASHCODE = HashCode<E>> decaf::util::LinkedHashSet< E, HASHCODE >::LinkedHashSet () [inline]

Constructs a new, empty set; the backing **HashMap** (p. 1600) instance has default initial capacity (16) and load factor (0.75).

6.364.2.2 template<typename E , typename HASHCODE = HashCode<E>> decaf::util::LinkedHashSet< E, HASHCODE >::LinkedHashSet (int *capacity*) [inline]

Constructs a new, empty set; the backing **HashMap** (p. 1600) instance has the specified initial capacity and default load factor (0.75).

Parameters:

capacity The initial capacity of this **LinkedHashSet** (p. 1865).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**LinkedHashSet.h**

6.365 decaf::util::LinkedList< E > Class Template Reference

A complete implementation of the **List** (p. 1889) interface using a doubly linked list data structure.

`#include <src/main/decaf/util/LinkedList.h>`Inheritance diagram for decaf::util::LinkedList< E >:

Data Structures

- class **ConstLinkedListIterator**
- class **ConstReverseIterator**
- class **LinkedListIterator**
- class **ListNode**
- class **ReverseIterator**

Public Member Functions

- **LinkedList** ()
- **LinkedList** (const **LinkedList**< E > &list)
- **LinkedList** (const **Collection**< E > &collection)
- virtual ~**LinkedList** ()
- **LinkedList**< E > & **operator**= (const **LinkedList**< E > &list)

  Assignment Operator, copy element from the source collection to this collection after clearing any element stored in this collection.

- **LinkedList**< E > & **operator**= (const **Collection**< E > &collection)
- bool **operator**== (const **LinkedList**< E > &other) const
- bool **operator!**= (const **LinkedList**< E > &other) const
- virtual E **get** (int index) const

  Gets the element contained at position passed.
  Parameters:

  index *The position to get.*
  Returns:

  value at index specified.
  Exceptions:

  IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*

  This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it gets the element using ***ListIterator.next*** *(p. 1790) and returns it.*

- virtual E **set** (int index, const E &element)

  Replaces the element at the specified position in this list with the specified element.
  Parameters:

  index *The index of the element to replace.*
  element *The element to be stored at the specified position.*
  Returns:

  the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*
UnsupportedOperationExceptio *if this is an unmodifiable collection.*
NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
IllegalArgumentException *if some property of the element prevents it from being added to this collection*
IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it gets the current element using ***ListIterator.next*** *(p. 1790) and replaces it with* ***ListIterator.set*** *(p. 1902).*

- virtual bool **add** (const E &value)

  Returns true if this collection changed as a result of the call.

- virtual void **add** (int index, const E &value)

  Inserts the specified element at the specified position in this list.
  Shifts the element currently at that position (if any) and any subsequent elements to the right (adds one to their indices).

  Parameters:

  index *The index at which the specified element is to be inserted.*
  element *The element to be inserted in this* ***List*** *(p. 1889).*

  Exceptions:

  IndexOutOfBoundsException *if the index is greater than size of the* ***List*** *(p. 1889).*
  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
  IllegalArgumentException *if some property of the element prevents it from being added to this collection*
  IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

  This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it inserts the specified element with ***ListIterator.add*** *(p. 1901).*

- virtual bool **addAll** (const **Collection**< E > &collection)

  This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.
  Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

- virtual bool **addAll** (int index, const **Collection**< E > &collection)

  Inserts all of the elements in the specified collection into this list at the specified position (optional operation).
  Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

  Parameters:

  index *The index at which to insert the first element from the specified collection*
  source *The* ***Collection*** *(p. 1000) containing elements to be added to this list*

  Returns:

  true if this list changed as a result of the call

Exceptions:

IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*
UnsupportedOperationExceptio *if this is an unmodifiable collection.*
NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
IllegalArgumentException *if some property of the element prevents it from being added to this collection.*
IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

This implementation gets an iterator over the specified collection and a list iterator over this list pointing to the indexed element (with listIterator(index)). Then, it iterates over the specified collection, inserting the elements obtained from the iterator into this list, one at a time, using ***ListIterator.add*** *(p. 1901) (to skip over the added element).*

- virtual void **copy** (const **Collection**< E > &collection)

  Renders this ***Collection*** *(p. 1000) as a Copy of the given* ***Collection*** *(p. 1000).*

- virtual bool **remove** (const E &value)

  Removes a single instance of the specified element from the collection.
  More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).
  Parameters:

  value *The reference to the element to remove from this* ***Collection*** *(p. 1000).*
  Returns:

  true if the collection was changed, false otherwise.
  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*

  This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.
  Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

- virtual bool **isEmpty** () const

  Returns true if this collection contains no elements.

- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).

- virtual bool **contains** (const E &value) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).
  Parameters:

  value *The value to check for presence in the collection.*
  Returns:

  true if there is at least one of the elements in the collection

Exceptions:

NullPointerException *if the* ***Collection*** *(p. 1000) contains pointers and the* ***Collection*** *(p. 1000) does not allow for NULL elements (optional check).*

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

- virtual int **indexOf** (const E &value) const

  Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual int **lastIndexOf** (const E &value) const

  Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual std::vector< E > **toArray** () const

  Answers an STL vector containing copies of all elements contained in this ***Collection*** *(p. 1000).*

- virtual bool **offer** (const E &value)

  Inserts the specified element into the queue provided that the condition allows such an operation.

- virtual bool **poll** (E &result)

  Gets and removes the element in the head of the queue.

- virtual E **remove** ()

  Gets and removes the element in the head of the queue.

- virtual bool **peek** (E &result) const

  Gets but not removes the element in the head of the queue.

- virtual E **element** () const

  Gets but not removes the element in the head of the queue.

- virtual void **addFirst** (const E &value)

  Inserts an element onto the front of the ***Deque*** *(p. 1360) if possible without violating the implementations capacity restrictions.*

- virtual void **addLast** (const E &value)

  Inserts an element onto the end of the ***Deque*** *(p. 1360) if possible without violating the implementations capacity restrictions.*

- virtual E & **getFirst** ()

  Attempts to fetch a reference to the first element in the ***Deque*** *(p. 1360).*

- virtual const E & **getFirst** () const
- virtual E & **getLast** ()

  Attempts to fetch a reference to the last element in the ***Deque*** *(p. 1360).*

- virtual const E & **getLast** () const
- virtual bool **offerFirst** (const E &element)

  This method attempts to insert the given element into the ***Deque*** *(p. 1360) at the front end.*

- virtual bool **offerLast** (const E &element)

  This method attempts to insert the given element into the ***Deque*** *(p. 1360) at the end.*

- virtual E **removeFirst** ()

  Removes the topmost element from the ***Deque*** *(p. 1360) and returns it.*

- virtual E **removeLast** ()

  Removes the last element from the ***Deque*** *(p. 1360) and returns it.*

- virtual bool **pollFirst** (E &result)

  Removes the first element from the ***Deque*** *(p. 1360) assigns it to the element reference passed.*

- virtual bool **pollLast** (E &result)

  Removes the last element from the ***Deque*** *(p. 1360) assigns it to the element reference passed.*

- virtual bool **peekFirst** (E &result) const

  Retrieves the first element contained in this ***Deque*** *(p. 1360) and assigns its value to the reference value passed the value however is not removed from the* ***Deque*** *(p. 1360).*

- virtual bool **peekLast** (E &result) const

  Retrieves the last element contained in this ***Deque*** *(p. 1360) and assigns its value to the reference value passed the value however is not removed from the* ***Deque*** *(p. 1360).*

- virtual E **pop** ()

  Treats this ***Deque*** *(p. 1360) as a stack and attempts to pop an element off the top.*

- virtual void **push** (const E &element)

  Pushes an element onto the stack represented by this deque (in other words, at the head of this deque) if it is possible to do so immediately without violating capacity restrictions, otherwise it throwing an IllegalStateException if no space is currently available.

- virtual bool **removeFirstOccurrence** (const E &value)

  Removes the first occurrence of the specified element from this ***Deque*** *(p. 1360).*

- virtual bool **removeLastOccurrence** (const E &value)

  Removes the last occurrence of the specified element from this ***Deque*** *(p. 1360).*

- virtual **ListIterator**< E > * **listIterator** (int index)
- virtual **ListIterator**< E > * **listIterator** (int index) const
- virtual **Iterator**< E > * **descendingIterator** ()

  Provides an ***Iterator*** *(p. 1789) over this* ***Collection*** *(p. 1000) that traverses the element in reverse order.*

- virtual **Iterator**< E > * **descendingIterator** () const

6.365.1 Detailed Description

template<typename E> class decaf::util::LinkedList< E >

A complete implementation of the **List** (p. 1889) interface using a doubly linked list data structure. This class also implements the **Deque** (p. 1360) interface providing a common interface for

additions into the list at the front and end as well as allowing insertions anywhere in between. This class can be used then to implement other data structures such as Stacks, Queue's or double ended Queue's.

The operations on this **List** (p. 1889) object that index a particular element involve iterating over the links of the list from beginning to end, starting from whichever end is closer to the location the operation is to be performed on.

Since:

1.0

6.365.2 Constructor & Destructor Documentation

6.365.2.1 template<typename E> decaf::util::LinkedList< E >::LinkedList () [inline]

6.365.2.2 template<typename E> decaf::util::LinkedList< E >::LinkedList (const LinkedList< E > & *list*) [inline]

6.365.2.3 template<typename E> decaf::util::LinkedList< E >::LinkedList (const Collection< E > & *collection*) [inline]

6.365.2.4 template<typename E> virtual decaf::util::LinkedList< E >::~LinkedList () [inline, virtual]

6.365.3 Member Function Documentation

6.365.3.1 template<typename E> virtual void decaf::util::LinkedList< E >::add (int index, const E & *element*) [inline, virtual]

Inserts the specified element at the specified position in this list.

Shifts the element currently at that position (if any) and any subsequent elements to the right (adds one to their indices).

Parameters:

index The index at which the specified element is to be inserted.

element The element to be inserted in this **List** (p. 1889).

Exceptions:

IndexOutOfBoundsException if the index is greater than size of the **List** (p. 1889).

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it inserts the specified element with **ListIterator.add** (p. 1901). This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it inserts the specified element with **ListIterator.add** (p. 1901).

Reimplemented from **decaf::util::AbstractSequentialList< E >** (p. 193).

6.365.3.2 template<typename E> virtual bool decaf::util::LinkedList< E >::add (const E & *value*) [inline, virtual]

Returns true if this collection changed as a result of the call. (Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Reimplemented from **decaf::util::AbstractList< E >** (p. 158).

6.365.3.3 template<typename E> virtual bool decaf::util::LinkedList< E >::addAll (int *index*, const Collection< E > & *source*) [inline, virtual]

Inserts all of the elements in the specified collection into this list at the specified position (optional operation).

Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are

returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

Parameters:

index The index at which to insert the first element from the specified collection

source The **Collection** (p. 1000) containing elements to be added to this list

Returns:

true if this list changed as a result of the call

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

This implementation gets an iterator over the specified collection and a list iterator over this list pointing to the indexed element (with listIterator(index)). Then, it iterates over the specified collection, inserting the elements obtained from the iterator into this list, one at a time, using **ListIterator.add** (p. 1901) (to skip over the added element). This implementation gets an iterator over the specified collection and a list iterator over this list pointing to the indexed element (with listIterator(index)). Then, it iterates over the specified collection, inserting the elements obtained from the iterator into this list, one at a time, using **ListIterator.add** (p. 1901) (to skip over the added element).

Reimplemented from **decaf::util::AbstractSequentialList< E >** (p. 194).

6.365.3.4 template<typename E> virtual bool decaf::util::LinkedList< E >::addAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty). This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 143).

6.365.3.5 template<typename E> virtual void decaf::util::LinkedList< E >::addFirst (const E & *element*) [inline, virtual]

Inserts an element onto the front of the **Deque** (p. 1360) if possible without violating the implementations capacity restrictions. For a capacity restricted **Deque** (p. 1360) it is preferable to call

offerFirst instead.

Parameters:

element The element to be placed at the front of the **Deque** (p. 1360).

Exceptions:

IllegalStateException if the element cannot be added at this time due to capacity restrictions

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implements **decaf::util::Deque< E >** (p. 1361).

6.365.3.6 template<typename E> virtual void decaf::util::LinkedList< E >::addLast (const E & *element*) [inline, virtual]

Inserts an element onto the end of the **Deque** (p. 1360) if possible without violating the implementations capacity restrictions. For a capacity restricted **Deque** (p. 1360) it is preferable to call offerLast instead.

Parameters:

element The element to be placed at the end of the **Deque** (p. 1360).

Exceptions:

IllegalStateException if the element cannot be added at this time due to capacity restrictions

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implements **decaf::util::Deque< E >** (p. 1362).

Referenced by decaf::util::LinkedList< cms::Connection * >::offer().

6.365.3.7 template<typename E> virtual void decaf::util::LinkedList< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation). The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractList< E >** (p. 160).

Referenced by decaf::util::LinkedList< cms::Connection * >::copy(), and decaf::util::LinkedList< cms::Connection * >::operator=().

6.365.3.8 template<typename E> virtual bool decaf::util::LinkedList< E >::contains (const E & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element. This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 145).

6.365.3.9 template<typename E> virtual void decaf::util::LinkedList< E >::copy (const Collection< E > & *collection*) [inline, virtual]

Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000). The default implementation iterates over the contents of the given collection adding each to this collection after first calling this Collection's clear method.

Parameters:

collection The collection to mirror.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

IllegalStateException if the elements cannot be added at this time due to insertion restrictions.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 146).

6.365.3.10 template<typename E> virtual Iterator<E>* decaf::util::LinkedList< E >::descendingIterator () const [inline, virtual]

Implements **decaf::util::Deque< E >** (p. 1363).

6.365.3.11 template<typename E> virtual Iterator<E>* decaf::util::LinkedList< E >::descendingIterator () [inline, virtual]

Provides an **Iterator** (p. 1789) over this **Collection** (p. 1000) that traverses the element in reverse order.

Returns:

a new **Iterator** (p. 1789) instance that moves from last to first.

Implements **decaf::util::Deque< E >** (p. 1363).

Referenced by decaf::util::LinkedList< cms::Connection * >::removeLastOccurrence().

6.365.3.12 template<typename E> virtual E decaf::util::LinkedList< E >::element () const [inline, virtual]

Gets but not removes the element in the head of the queue. Throws a **NoSuchElementException** (p. 2247) if there is no element in the queue.

Returns:

the element in the head of the queue.

Exceptions:

NoSuchElementException *(p. 2247)* if there is no element in the queue.

Implements **decaf::util::Queue< E >** (p. 2501).

Referenced by decaf::util::LinkedList< cms::Connection * >::set().

6.365.3.13 template<typename E> virtual E decaf::util::LinkedList< E >::get (int *index*) const [inline, virtual]

Gets the element contained at position passed.

Parameters:

index The position to get.

Returns:

value at index specified.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it gets the element using **ListIterator.next** (p. 1790) and returns it. This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it gets the element using **ListIterator.next** (p. 1790) and returns it.

Reimplemented from **decaf::util::AbstractSequentialList< E >** (p. 195).

6.365.3.14 template<typename E> virtual const E& decaf::util::LinkedList< E >::getFirst () const [inline, virtual]

Implements **decaf::util::Deque< E >** (p. 1363).

6.365.3.15 template<typename E> virtual E& decaf::util::LinkedList< E >::getFirst () [inline, virtual]

Attempts to fetch a reference to the first element in the **Deque** (p. 1360). This method does not remove the element from the **Deque** (p. 1360) but simply returns a reference to it.

Returns:

reference to the first element in the **Deque** (p. 1360).

Exceptions:

NoSuchElementException *(p. 2247)* if the **Deque** (p. 1360) is empty.

Implements **decaf::util::Deque< E >** (p. 1363).

6.365.3.16 template<typename E> virtual const E& decaf::util::LinkedList< E >::getLast () const [inline, virtual]

Implements **decaf::util::Deque< E >** (p. 1364).

6.365.3.17 template<typename E> virtual E& decaf::util::LinkedList< E >::getLast () [inline, virtual]

Attempts to fetch a reference to the last element in the **Deque** (p. 1360). This method does not remove the element from the **Deque** (p. 1360) but simply returns a reference to it.

Returns:

reference to the last element in the **Deque** (p. 1360).

Exceptions:

NoSuchElementException *(p. 2247)* if the **Deque** (p. 1360) is empty.

Implements **decaf::util::Deque< E >** (p. 1364).

6.365.3.18 template<typename E> virtual int decaf::util::LinkedList< E >::indexOf (const E & *value*) const [inline, virtual]

Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the lowest index i such that get(i) == value, or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the first occurrence of the specified element in this list,

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Reimplemented from **decaf::util::AbstractList< E >** (p. 160).

Referenced by decaf::util::LinkedList< cms::Connection * >::contains().

6.365.3.19 template<typename E> virtual bool decaf::util::LinkedList< E >::isEmpty () const [inline, virtual]

Returns true if this collection contains no elements. This implementation returns **size()** (p. 1887) == 0.

Returns:

true if the size method return 0.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

6.365.3.20 template<typename E> virtual int decaf::util::LinkedList< E >::lastIndexOf (const E & *value*) const [inline, virtual]

Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the highest index i such that get(i) == value or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the last occurrence of the specified element in this list.

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Reimplemented from **decaf::util::AbstractList< E >** (p. 162).

6.365.3.21 template<typename E> virtual ListIterator<E>* decaf::util::LinkedList< E >::listIterator (int index) const [inline, virtual]

Reimplemented from **decaf::util::AbstractSequentialList< E >** (p. 196).

6.365.3.22 template<typename E> virtual ListIterator<E>* decaf::util::LinkedList< E >::listIterator (int *index*) [inline, virtual]

Parameters:

index index of first element to be returned from the list iterator (by a call to the next method).

Returns:

a list iterator of the elements in this list (in proper sequence), starting at the specified position in this list. The specified index indicates the first element that would be returned by an initial call to next. An initial call to previous would return the element with the specified index minus one.

Exceptions:

IndexOutOfBoundsException if the index is out of range (index < 0 || index > **size()** (p. 1887))

Reimplemented from **decaf::util::AbstractSequentialList< E >** (p. 196).

6.365.3.23 template<typename E> virtual bool decaf::util::LinkedList< E >::offer (const E & *value*) [inline, virtual]

Inserts the specified element into the queue provided that the condition allows such an operation. The method is generally preferable to the collection.add(E), since the latter might throw an exception if the operation fails.

Parameters:

value the specified element to insert into the queue.

Returns:

true if the operation succeeds and false if it fails.

Exceptions:

NullPointerException if the **Queue** (p. 2500) implementation does not allow Null values to be inserted into the **Queue** (p. 2500).

IllegalArgumentException if some property of the specified element prevents it from being added to this queue

Implements **decaf::util::Queue< E >** (p. 2501).

6.365.3.24 template<typename E> virtual bool decaf::util::LinkedList< E >::offerFirst (const E & *element*) [inline, virtual]

This method attempts to insert the given element into the **Deque** (p. 1360) at the front end. Unlike the addFirst method that throws an exception if it cannot insert the element due to capacity restrictions etc this method returns false if it cannot insert the element.

Parameters:

element The element to add to this **Deque** (p. 1360).

Returns:

true if the element was added, false otherwise.

Exceptions:

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implements **decaf::util::Deque< E >** (p. 1365).

6.365.3.25 template<typename E> virtual bool decaf::util::LinkedList< E >::offerLast (const E & *element*) [inline, virtual]

This method attempts to insert the given element into the **Deque** (p. 1360) at the end. Unlike the addLast method that throws an exception if it cannot insert the element due to capacity restrictions etc this method returns false if it cannot insert the element.

Parameters:

element The element to add to this **Deque** (p. 1360).

Returns:

true if the element was added, false otherwise.

Exceptions:

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implements **decaf::util::Deque< E >** (p. 1365).

6.365.3.26 template<typename E> bool decaf::util::LinkedList< E >::operator!= (const LinkedList< E > & *other*) const [inline]

6.365.3.27 template<typename E> LinkedList<E>& decaf::util::LinkedList< E >::operator= (const Collection< E > & *collection*) [inline]

6.365.3.28 template<typename E> LinkedList<E>& decaf::util::LinkedList< E >::operator= (const LinkedList< E > & *collection*) [inline]

Assignment Operator, copy element from the source collection to this collection after clearing any element stored in this collection.

Parameters:

collection - the collection to copy

Returns:

a reference to this collection

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 148).

6.365.3.29 template<typename E> bool decaf::util::LinkedList< E >::operator== (const LinkedList< E > & *other*) const [inline]

6.365.3.30 template<typename E> virtual bool decaf::util::LinkedList< E >::peek (E & *result*) const [inline, virtual]

Gets but not removes the element in the head of the queue. The result if successful is assigned to the result parameter.

Parameters:

result Reference to an instance of the contained type to assigned the removed value to.

Returns:

true if the element at the head of the queue was removed and assigned to the result parameter.

Implements **decaf::util::Queue< E >** (p. 2502).

6.365.3.31 template<typename E> virtual bool decaf::util::LinkedList< E >::peekFirst (E & *value*) const [inline, virtual]

Retrieves the first element contained in this **Deque** (p. 1360) and assigns its value to the reference value passed the value however is not removed from the **Deque** (p. 1360). If this call is successful it returns true. Unlike getFirst this method does not throw an exception if the **Deque** (p. 1360) is empty.

Returns:

true if an element was assigned to the reference passed, false otherwise.

Implements **decaf::util::Deque< E >** (p. 1366).

6.365.3.32 template<typename E> virtual bool decaf::util::LinkedList< E >::peekLast (E & *value*) const [inline, virtual]

Retrieves the last element contained in this **Deque** (p. 1360) and assigns its value to the reference value passed the value however is not removed from the **Deque** (p. 1360). If this call is successful it returns true. Unlike getLast this method does not throw an exception if the **Deque** (p. 1360) is empty.

Returns:

true if an element was assigned to the reference passed, false otherwise.

Implements **decaf::util::Deque< E >** (p. 1366).

6.365.3.33 template<typename E> virtual bool decaf::util::LinkedList< E >::poll (E & *result*) [inline, virtual]

Gets and removes the element in the head of the queue. If the operation succeeds the value of the element at the head of the **Queue** (p. 2500) is assigned to the result parameter and the method returns true. If the operation fails the method returns false and the value of the result parameter is undefined.

Parameters:

result Reference to an instance of the contained type to assigned the removed value to.

Returns:

true if the element at the head of the queue was removed and assigned to the result parameter.

Implements **decaf::util::Queue< E >** (p. 2502).

6.365.3.34 template<typename E> virtual bool decaf::util::LinkedList< E >::pollFirst (E & *element*) [inline, virtual]

Removes the first element from the **Deque** (p. 1360) assigns it to the element reference passed.

Parameters:

element Reference to an variable that can be assigned the value of the head of this **Deque** (p. 1360).

Returns:

true if an element was available to remove, false otherwise.

Implements **decaf::util::Deque< E >** (p. 1367).

6.365.3.35 template<typename E> virtual bool decaf::util::LinkedList< E >::pollLast (E & *element*) [inline, virtual]

Removes the last element from the **Deque** (p. 1360) assigns it to the element reference passed.

Parameters:

element Reference to an variable that can be assigned the value of the tail of this **Deque** (p. 1360).

Returns:

true if an element was available to remove, false otherwise.

Implements **decaf::util::Deque< E >** (p. 1367).

6.365.3.36 template<typename E> virtual E decaf::util::LinkedList< E >::pop () [inline, virtual]

Treats this **Deque** (p. 1360) as a stack and attempts to pop an element off the top. If there's no element to pop then a NuSuchElementException is thrown, otherwise the top element is removed and assigned to the reference passed.

This operation performs the same basic function as the removeFirst method.

Returns:

the element at the front of this deque which would be the top of a stack.

Exceptions:

NoSuchElementException *(p. 2247)* if there is nothing on the top of the stack.

Implements **decaf::util::Deque< E >** (p. 1367).

6.365.3.37 template<typename E> virtual void decaf::util::LinkedList< E >::push (const E & *element*) [inline, virtual]

Pushes an element onto the stack represented by this deque (in other words, at the head of this deque) if it is possible to do so immediately without violating capacity restrictions, otherwise it throwing an IllegalStateException if no space is currently available. This method performs the same basic operation as the addFirst method.

Parameters:

element The element to be pushed onto the **Deque** (p. 1360).

Exceptions:

IllegalStateException if the element cannot be added at this time due to capacity restrictions

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

IllegalArgumentException if some property of the specified element prevents it from being added to this deque.

Implements **decaf::util::Deque< E >** (p. 1368).

6.365.3.38 template<typename E> virtual E decaf::util::LinkedList< E >::remove () [inline, virtual]

Gets and removes the element in the head of the queue. Throws a **NoSuchElementException** (p. 2247) if there is no element in the queue.

Returns:

the element in the head of the queue.

Exceptions:

NoSuchElementException *(p. 2247)* if there is no element in the queue.

Implements **decaf::util::Queue< E >** (p. 2503).

6.365.3.39 template<typename E> virtual bool decaf::util::LinkedList< E >::remove (const E & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object. This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 149).

6.365.3.40 template<typename E> virtual E decaf::util::LinkedList< E >::removeFirst () [inline, virtual]

Removes the topmost element from the **Deque** (p. 1360) and returns it. Unlike the pollFirst method this method throws a NuSuchElementException if the **Deque** (p. 1360) is empty.

Returns:

the element at the Head of the **Deque** (p. 1360).

Exceptions:

NoSuchElementException *(p. 2247)* if the **Deque** (p. 1360) is empty.

Implements **decaf::util::Deque< E >** (p. 1368).

6.365.3.41 template<typename E> virtual bool decaf::util::LinkedList< E >::removeFirstOccurrence (const E & *value*) [inline, virtual]

Removes the first occurrence of the specified element from this **Deque** (p. 1360). If there is no matching element then the **Deque** (p. 1360) is left unchanged.

Parameters:

value The value to be removed from this **Deque** (p. 1360).

Returns:

true if the **Deque** (p. 1360) was modified as a result of this operation.

Exceptions:

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

Implements **decaf::util::Deque< E >** (p. 1369).

Referenced by decaf::util::LinkedList< cms::Connection * >::remove().

6.365.3.42 template<typename E> virtual E decaf::util::LinkedList< E >::removeLast () [inline, virtual]

Removes the last element from the **Deque** (p. 1360) and returns it. Unlike the pollLast method this method throws a NuSuchElementException if the **Deque** (p. 1360) is empty.

Returns:

the element at the Tail of the **Deque** (p. 1360).

Exceptions:

NoSuchElementException *(p. 2247)* if the **Deque** (p. 1360) is empty.

Implements **decaf::util::Deque< E >** (p. 1369).

6.365.3.43 template<typename E> virtual bool decaf::util::LinkedList< E >::removeLastOccurrence (const E & *value*) [inline, virtual]

Removes the last occurrence of the specified element from this **Deque** (p. 1360). If there is no matching element then the **Deque** (p. 1360) is left unchanged.

Parameters:

value The value to be removed from this **Deque** (p. 1360).

Returns:

true if the **Deque** (p. 1360) was modified as a result of this operation.

Exceptions:

NullPointerException if the specified element is NULL and this deque is a **Collection** (p. 1000) of pointers and does not permit null elements.

Implements **decaf::util::Deque< E >** (p. 1370).

6.365.3.44 template<typename E> virtual E decaf::util::LinkedList< E >::set (int index, const E & *element*) [inline, virtual]

Replaces the element at the specified position in this list with the specified element.

Parameters:

index The index of the element to replace.

element The element to be stored at the specified position.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it gets the current element using **ListIterator.next** (p. 1790) and replaces it with **ListIterator.set** (p. 1902). This implementation first gets a list iterator pointing to the indexed element (with listIterator(index)). Then, it gets the current element using **ListIterator.next** (p. 1790) and replaces it with **ListIterator.set** (p. 1902).

Reimplemented from **decaf::util::AbstractSequentialList< E >** (p. 198).

6.365.3.45 template<typename E> virtual int decaf::util::LinkedList< E >::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< E >** (p. 1009).

6.365.3.46 template<typename E> virtual std::vector<E> decaf::util::LinkedList< E >::toArray () const [inline, virtual]

Answers an STL vector containing copies of all elements contained in this **Collection** (p. 1000). All the elements in the array will not be referenced by the collection. The elements in the returned array will be sorted to the same order as those returned by the iterator of this collection itself if the collection guarantees the order.

Returns:

an vector of copies of all the elements from this **Collection** (p. 1000)

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 150).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**LinkedList.h**

6.366 decaf::util::List< E > Class Template Reference

An ordered collection (also known as a sequence).

`#include <src/main/decaf/util/List.h>`Inheritance diagram for decaf::util::List< E >:

Public Member Functions

- **List** ()
- virtual ~**List** ()
- virtual **ListIterator**< E > * **listIterator** ()=0
- virtual **ListIterator**< E > * **listIterator** () const =0
- virtual **ListIterator**< E > * **listIterator** (int index)=0
- virtual **ListIterator**< E > * **listIterator** (int index) const =0
- virtual int **indexOf** (const E &value) const =0

  Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual int **lastIndexOf** (const E &value) const =0

  Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual E **get** (int index) const =0

  Gets the element contained at position passed.

- virtual E **set** (int index, const E &element)=0

  Replaces the element at the specified position in this list with the specified element.

- virtual void **add** (int index, const E &element)=0

  Inserts the specified element at the specified position in this list.

- virtual bool **addAll** (int index, const **Collection**< E > &source)=0

  Inserts all of the elements in the specified collection into this list at the specified position (optional operation).

- virtual E **removeAt** (int index)=0

  Removes the element at the specified position in this list.

6.366.1 Detailed Description

template<typename E> class decaf::util::List< E >

An ordered collection (also known as a sequence). The user of this interface has precise control over where in the list each element is inserted. The user can access elements by their integer index (position in the list), and search for elements in the list.

Unlike sets, lists typically allow duplicate elements. More formally, lists typically allow pairs of elements e1 and e2 such that e1.equals(e2), and they typically allow multiple null elements if they

allow null elements at all. It is not inconceivable that someone might wish to implement a list that prohibits duplicates, by throwing runtime exceptions when the user attempts to insert them, but we expect this usage to be rare.

6.366.2 Constructor & Destructor Documentation

6.366.2.1 template<typename E> decaf::util::List< E >::List () [inline]

6.366.2.2 template<typename E> virtual decaf::util::List< E >::~List () [inline, virtual]

6.366.3 Member Function Documentation

6.366.3.1 template<typename E> virtual void decaf::util::List< E >::add (int *index*, const E & *element*) [pure virtual]

Inserts the specified element at the specified position in this list. Shifts the element currently at that position (if any) and any subsequent elements to the right (adds one to their indices).

Parameters:

index The index at which the specified element is to be inserted.

element The element to be inserted in this **List** (p. 1889).

Exceptions:

IndexOutOfBoundsException if the index is greater than size of the **List** (p. 1889).

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implemented in **decaf::util::AbstractSequentialList< E >** (p. 193), **decaf::util::ArrayList< E >** (p. 581), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1200), **decaf::util::LinkedList< E >** (p. 1872), **decaf::util::StlList< E >** (p. 2844), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 193), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 193), **decaf::util::AbstractSequentialList< URI >** (p. 193), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 193), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 193), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 193), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 193), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 193), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 193), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 193), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 193), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 193), **decaf::util::ArrayList< ServiceListener * >** (p. 581), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 581), **decaf::util::LinkedList<**

cms::MessageConsumer * > (p. 1872), **decaf::util::LinkedList< CompositeTask** * > (p. 1872), **decaf::util::LinkedList< URI** > (p. 1872), **decaf::util::LinkedList< Pointer< MessageDispatch** > > (p. 1872), **decaf::util::LinkedList< Pointer< DestinationInfo** > > (p. 1872), **decaf::util::LinkedList< PrimitiveValueNode** > (p. 1872), **decaf::util::LinkedList< decaf::net::URI** > (p. 1872), **decaf::util::LinkedList< Pointer< Command** > > (p. 1872), **decaf::util::LinkedList< cms::MessageProducer** * > (p. 1872), **decaf::util::LinkedList< cms::Destination** * > (p. 1872), **decaf::util::LinkedList< cms::Session** * > (p. 1872), and **decaf::util::LinkedList< cms::Connection** * > (p. 1872).

6.366.3.2 template<typename E> virtual bool decaf::util::List< E >::addAll (int *index*, const Collection< E > & *source*) [pure virtual]

Inserts all of the elements in the specified collection into this list at the specified position (optional operation). Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

Parameters:

index The index at which to insert the first element from the specified collection

source The **Collection** (p. 1000) containing elements to be added to this list

Returns:

true if this list changed as a result of the call

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implemented in **decaf::util::AbstractList< E >** (p. 159), **decaf::util::AbstractSequentialList< E >** (p. 194), **decaf::util::ArrayList< E >** (p. 582), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1201), **decaf::util::LinkedList< E >** (p. 1873), **decaf::util::StlList< E >** (p. 2845), **decaf::util::AbstractList< ServiceListener** * > (p. 159), **decaf::util::AbstractList< cms::MessageConsumer** * > (p. 159), **decaf::util::AbstractList< CompositeTask** * > (p. 159), **decaf::util::AbstractList< URI** > (p. 159), **decaf::util::AbstractList< Pointer< MessageDispatch** > > (p. 159), **decaf::util::AbstractList< Pointer< DestinationInfo** > > (p. 159), **decaf::util::AbstractList< PrimitiveValueNode** > (p. 159), **decaf::util::AbstractList< decaf::net::URI** > (p. 159), **decaf::util::AbstractList< Pointer< Command** > > (p. 159), **decaf::util::AbstractList< cms::MessageProducer** * > (p. 159), **decaf::util::AbstractList< cms::Destination** * > (p. 159),

decaf::util::AbstractList< cms::Session * > (p. 159), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 159), **decaf::util::AbstractList< cms::Connection * >** (p. 159), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 194), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 194), **decaf::util::AbstractSequentialList< URI >** (p. 194), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 194), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 194), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 194), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 194), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 194), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 194), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 194), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 194), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 194), **decaf::util::ArrayList< ServiceListener * >** (p. 582), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 582), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1873), **decaf::util::LinkedList< CompositeTask * >** (p. 1873), **decaf::util::LinkedList< URI >** (p. 1873), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1873), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1873), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1873), **decaf::util::LinkedList< decaf::net::URI >** (p. 1873), **decaf::util::LinkedList< Pointer< Command > >** (p. 1873), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1873), **decaf::util::LinkedList< cms::Destination * >** (p. 1873), **decaf::util::LinkedList< cms::Session * >** (p. 1873), and **decaf::util::LinkedList< cms::Connection * >** (p. 1873).

6.366.3.3 template<typename E> virtual E decaf::util::List< E >::get (int *index*) const [pure virtual]

Gets the element contained at position passed.

Parameters:

index The position to get.

Returns:

value at index specified.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

Implemented in **decaf::util::AbstractSequentialList< E >** (p. 195), **decaf::util::ArrayList< E >** (p. 584), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1204), **decaf::util::LinkedList< E >** (p. 1877), **decaf::util::StlList< E >** (p. 2847), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 195), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 195), **decaf::util::AbstractSequentialList< URI >** (p. 195), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 195), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 195), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 195), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 195), **decaf::util::AbstractSequentialList< Pointer< Command >**

> (p. 195), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 195), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 195), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 195), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 195), **decaf::util::ArrayList< ServiceListener * >** (p. 584), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 584), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1877), **decaf::util::LinkedList< CompositeTask * >** (p. 1877), **decaf::util::LinkedList< URI >** (p. 1877), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1877), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1877), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1877), **decaf::util::LinkedList< decaf::net::URI >** (p. 1877), **decaf::util::LinkedList< Pointer< Command > >** (p. 1877), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1877), **decaf::util::LinkedList< cms::Destination * >** (p. 1877), **decaf::util::LinkedList< cms::Session * >** (p. 1877), and **decaf::util::LinkedList< cms::Connection * >** (p. 1877).

6.366.3.4 template<typename E> virtual int decaf::util::List< E >::indexOf (const E & *value*) const [pure virtual]

Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the lowest index i such that get(i) == value, or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the first occurrence of the specified element in this list,

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implemented in **decaf::util::AbstractList< E >** (p. 160), **decaf::util::ArrayList< E >** (p. 585), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1205), **decaf::util::LinkedList< E >** (p. 1878), **decaf::util::StlList< E >** (p. 2848), **decaf::util::AbstractList< ServiceListener * >** (p. 160), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 160), **decaf::util::AbstractList< CompositeTask * >** (p. 160), **decaf::util::AbstractList< URI >** (p. 160), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 160), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 160), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 160), **decaf::util::AbstractList< decaf::net::URI >** (p. 160), **decaf::util::AbstractList< Pointer< Command > >** (p. 160), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 160), **decaf::util::AbstractList< cms::Destination * >** (p. 160), **decaf::util::AbstractList< cms::Session * >** (p. 160), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 160), **decaf::util::AbstractList< cms::Connection * >** (p. 160), **decaf::util::ArrayList< ServiceListener * >** (p. 585), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 585), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1878), **decaf::util::LinkedList< CompositeTask * >** (p. 1878), **decaf::util::LinkedList< URI >** (p. 1878), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1878), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1878),

decaf::util::LinkedList< PrimitiveValueNode > (p. 1878), **decaf::util::LinkedList< decaf::net::URI >** (p. 1878), **decaf::util::LinkedList< Pointer< Command > >** (p. 1878), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1878), **decaf::util::LinkedList< cms::Destination * >** (p. 1878), **decaf::util::LinkedList< cms::Session * >** (p. 1878), and **decaf::util::LinkedList< cms::Connection * >** (p. 1878).

6.366.3.5 template<typename E> virtual int decaf::util::List< E >::lastIndexOf (const E & *value*) const [pure virtual]

Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the highest index i such that get(i) == value or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the last occurrence of the specified element in this list.

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Implemented in **decaf::util::AbstractList< E >** (p. 162), **decaf::util::ArrayList< E >** (p. 585), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1207), **decaf::util::LinkedList< E >** (p. 1879), **decaf::util::StlList< E >** (p. 2848), **decaf::util::AbstractList< ServiceListener * >** (p. 162), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 162), **decaf::util::AbstractList< CompositeTask * >** (p. 162), **decaf::util::AbstractList< URI >** (p. 162), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 162), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 162), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 162), **decaf::util::AbstractList< decaf::net::URI >** (p. 162), **decaf::util::AbstractList< Pointer< Command > >** (p. 162), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 162), **decaf::util::AbstractList< cms::Destination * >** (p. 162), **decaf::util::AbstractList< cms::Session * >** (p. 162), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 162), **decaf::util::AbstractList< cms::Connection * >** (p. 162), **decaf::util::ArrayList< ServiceListener * >** (p. 585), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 585), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1879), **decaf::util::LinkedList< CompositeTask * >** (p. 1879), **decaf::util::LinkedList< URI >** (p. 1879), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1879), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1879), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1879), **decaf::util::LinkedList< decaf::net::URI >** (p. 1879), **decaf::util::LinkedList< Pointer< Command > >** (p. 1879), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1879), **decaf::util::LinkedList< cms::Destination * >** (p. 1879), **decaf::util::LinkedList< cms::Session * >** (p. 1879), and **decaf::util::LinkedList< cms::Connection * >** (p. 1879).

6.366.3.6 template<typename E> virtual ListIterator<E>* decaf::util::List< E >::listIterator (int *index*) const [pure virtual]

Implemented in **decaf::util::AbstractList< E >** (p. 162), **decaf::util::AbstractSequentialList< E >** (p. 196), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1207), **decaf::util::LinkedList< E >** (p. 1879), **decaf::util::StlList< E >** (p. 2849), **decaf::util::AbstractList< ServiceListener * >** (p. 162), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 162), **decaf::util::AbstractList< CompositeTask * >** (p. 162), **decaf::util::AbstractList< URI >** (p. 162), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 162), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 162), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 162), **decaf::util::AbstractList< decaf::net::URI >** (p. 162), **decaf::util::AbstractList< Pointer< Command > >** (p. 162), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 162), **decaf::util::AbstractList< cms::Destination * >** (p. 162), **decaf::util::AbstractList< cms::Session * >** (p. 162), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 162), **decaf::util::AbstractList< cms::Connection * >** (p. 162), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 196), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 196), **decaf::util::AbstractSequentialList< URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 196), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 196), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 196), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 196), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1879), **decaf::util::LinkedList< CompositeTask * >** (p. 1879), **decaf::util::LinkedList< URI >** (p. 1879), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1879), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1879), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1879), **decaf::util::LinkedList< decaf::net::URI >** (p. 1879), **decaf::util::LinkedList< Pointer< Command > >** (p. 1879), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1879), **decaf::util::LinkedList< cms::Destination * >** (p. 1879), **decaf::util::LinkedList< cms::Session * >** (p. 1879), and **decaf::util::LinkedList< cms::Connection * >** (p. 1879).

6.366.3.7 template<typename E> virtual ListIterator<E>* decaf::util::List< E >::listIterator (int *index*) [pure virtual]

Parameters:

index index of first element to be returned from the list iterator (by a call to the next method).

Returns:

a list iterator of the elements in this list (in proper sequence), starting at the specified position in this list. The specified index indicates the first element that would be returned by an initial call to next. An initial call to previous would return the element with the specified index minus one.

Exceptions:

IndexOutOfBoundsException if the index is out of range (index < 0 || index > **size()** (p. 1009))

Implemented in **decaf::util::AbstractList< E >** (p. 163), **decaf::util::AbstractSequentialList< E >** (p. 196), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1207), **decaf::util::LinkedList< E >** (p. 1880), **decaf::util::StlList< E >** (p. 2849), **decaf::util::AbstractList< ServiceListener * >** (p. 163), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 163), **decaf::util::AbstractList< CompositeTask * >** (p. 163), **decaf::util::AbstractList< URI >** (p. 163), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 163), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 163), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 163), **decaf::util::AbstractList< decaf::net::URI >** (p. 163), **decaf::util::AbstractList< Pointer< Command > >** (p. 163), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 163), **decaf::util::AbstractList< cms::Destination * >** (p. 163), **decaf::util::AbstractList< cms::Session * >** (p. 163), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 163), **decaf::util::AbstractList< cms::Connection * >** (p. 163), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 196), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 196), **decaf::util::AbstractSequentialList< URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 196), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 196), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 196), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 196), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 196), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 196), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1880), **decaf::util::LinkedList< CompositeTask * >** (p. 1880), **decaf::util::LinkedList< URI >** (p. 1880), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1880), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1880), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1880), **decaf::util::LinkedList< decaf::net::URI >** (p. 1880), **decaf::util::LinkedList< Pointer< Command > >** (p. 1880), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1880), **decaf::util::LinkedList< cms::Destination * >** (p. 1880), **decaf::util::LinkedList< cms::Session * >** (p. 1880), and **decaf::util::LinkedList< cms::Connection * >** (p. 1880).

6.366.3.8 template<typename E> virtual ListIterator<E>* decaf::util::List< E >::listIterator () const [pure virtual]

Implemented in **decaf::util::AbstractList< E >** (p. 164), **decaf::util::AbstractSequentialList< E >** (p. 197), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1208), **decaf::util::StlList< E >** (p. 2849), **decaf::util::AbstractList< ServiceListener * >** (p. 164), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 164), **decaf::util::AbstractList< CompositeTask * >** (p. 164), **decaf::util::AbstractList< URI >** (p. 164), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 164), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 164), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 164), **decaf::util::AbstractList< decaf::net::URI >** (p. 164), **decaf::util::AbstractList< Pointer< Command > >** (p. 164), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 164), **decaf::util::AbstractList< cms::Destination * >** (p. 164),

decaf::util::AbstractList< cms::Session * > (p. 164), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 164), **decaf::util::AbstractList< cms::Connection * >** (p. 164), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 197), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 197), **decaf::util::AbstractSequentialList< URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 197), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 197), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 197), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 197), and **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 197).

6.366.3.9 template<typename E> virtual ListIterator<E>* decaf::util::List< E >::listIterator () [pure virtual]

Returns:

a list iterator over the elements in this list (in proper sequence).

Implemented in **decaf::util::AbstractList< E >** (p. 164), **decaf::util::AbstractSequentialList< E >** (p. 197), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1208), **decaf::util::StlList< E >** (p. 2850), **decaf::util::AbstractList< ServiceListener * >** (p. 164), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 164), **decaf::util::AbstractList< CompositeTask * >** (p. 164), **decaf::util::AbstractList< URI >** (p. 164), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 164), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 164), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 164), **decaf::util::AbstractList< decaf::net::URI >** (p. 164), **decaf::util::AbstractList< Pointer< Command > >** (p. 164), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 164), **decaf::util::AbstractList< cms::Destination * >** (p. 164), **decaf::util::AbstractList< cms::Session * >** (p. 164), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 164), **decaf::util::AbstractList< cms::Connection * >** (p. 164), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 197), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 197), **decaf::util::AbstractSequentialList< URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 197), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 197), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 197), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 197), and **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 197).

Referenced by decaf::util::Collections::reverse().

6.366.3.10 template<typename E> virtual E decaf::util::List< E >::removeAt (int *index*) [pure virtual]

Removes the element at the specified position in this list. Shifts any subsequent elements to the left (subtracts one from their indices). Returns the element that was removed from the list.

Parameters:

index - the index of the element to be removed.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

Implemented in **decaf::util::AbstractList< E >** (p. 165), **decaf::util::AbstractSequentialList< E >** (p. 197), **decaf::util::ArrayList< E >** (p. 587), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1210), **decaf::util::StlList< E >** (p. 2850), **decaf::util::AbstractList< ServiceListener * >** (p. 165), **decaf::util::AbstractList< cms::MessageConsumer * >** (p. 165), **decaf::util::AbstractList< CompositeTask * >** (p. 165), **decaf::util::AbstractList< URI >** (p. 165), **decaf::util::AbstractList< Pointer< MessageDispatch > >** (p. 165), **decaf::util::AbstractList< Pointer< DestinationInfo > >** (p. 165), **decaf::util::AbstractList< PrimitiveValueNode >** (p. 165), **decaf::util::AbstractList< decaf::net::URI >** (p. 165), **decaf::util::AbstractList< Pointer< Command > >** (p. 165), **decaf::util::AbstractList< cms::MessageProducer * >** (p. 165), **decaf::util::AbstractList< cms::Destination * >** (p. 165), **decaf::util::AbstractList< cms::Session * >** (p. 165), **decaf::util::AbstractList< Pointer< ActiveMQDestination > >** (p. 165), **decaf::util::AbstractList< cms::Connection * >** (p. 165), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 197), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 197), **decaf::util::AbstractSequentialList< URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 197), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 197), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 197), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 197), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 197), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 197), **decaf::util::ArrayList< ServiceListener * >** (p. 587), and **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 587).

6.366.3.11 template<typename E> virtual E decaf::util::List< E >::set (int *index*, const E & *element*) [pure virtual]

Replaces the element at the specified position in this list with the specified element.

Parameters:

index The index of the element to replace.

element The element to be stored at the specified position.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implemented in **decaf::util::AbstractSequentialList< E >** (p. 198), **decaf::util::ArrayList< E >** (p. 587), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1211), **decaf::util::LinkedList< E >** (p. 1886), **decaf::util::StlList< E >** (p. 2851), **decaf::util::AbstractSequentialList< cms::MessageConsumer * >** (p. 198), **decaf::util::AbstractSequentialList< CompositeTask * >** (p. 198), **decaf::util::AbstractSequentialList< URI >** (p. 198), **decaf::util::AbstractSequentialList< Pointer< MessageDispatch > >** (p. 198), **decaf::util::AbstractSequentialList< Pointer< DestinationInfo > >** (p. 198), **decaf::util::AbstractSequentialList< PrimitiveValueNode >** (p. 198), **decaf::util::AbstractSequentialList< decaf::net::URI >** (p. 198), **decaf::util::AbstractSequentialList< Pointer< Command > >** (p. 198), **decaf::util::AbstractSequentialList< cms::MessageProducer * >** (p. 198), **decaf::util::AbstractSequentialList< cms::Destination * >** (p. 198), **decaf::util::AbstractSequentialList< cms::Session * >** (p. 198), **decaf::util::AbstractSequentialList< cms::Connection * >** (p. 198), **decaf::util::ArrayList< ServiceListener * >** (p. 587), **decaf::util::ArrayList< Pointer< ActiveMQDestination > >** (p. 587), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1886), **decaf::util::LinkedList< CompositeTask * >** (p. 1886), **decaf::util::LinkedList< URI >** (p. 1886), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1886), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1886), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1886), **decaf::util::LinkedList< decaf::net::URI >** (p. 1886), **decaf::util::LinkedList< Pointer< Command > >** (p. 1886), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1886), **decaf::util::LinkedList< cms::Destination * >** (p. 1886), **decaf::util::LinkedList< cms::Session * >** (p. 1886), and **decaf::util::LinkedList< cms::Connection * >** (p. 1886).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**List.h**

6.367 decaf::util::ListIterator< E > Class Template Reference

An iterator for lists that allows the programmer to traverse the list in either direction, modify the list during iteration, and obtain the iterator's current position in the list.

`#include <src/main/decaf/util/ListIterator.h>`Inheritance diagram for decaf::util::ListIterator< E >:

Public Member Functions

- virtual ~**ListIterator** ()
- virtual void **add** (const E &e)=0

  Inserts the specified element into the list (optional operation).

- virtual void **set** (const E &e)=0

  Replaces the last element returned by next or previous with the specified element (optional operation).

- virtual bool **hasPrevious** () const =0

  Returns true if this list iterator has more elements when traversing the list in the reverse direction.

- virtual E **previous** ()=0

  Returns the previous element in the list.

- virtual int **nextIndex** () const =0

  Returns the index of the element that would be returned by a subsequent call to next.

- virtual int **previousIndex** () const =0

  Returns the index of the element that would be returned by a subsequent call to previous.

6.367.1 Detailed Description

template<typename E> class decaf::util::ListIterator< E >

An iterator for lists that allows the programmer to traverse the list in either direction, modify the list during iteration, and obtain the iterator's current position in the list. Note that the **remove()** (p. 1790) and set(Object) methods are not defined in terms of the cursor position; they are defined to operate on the last element returned by a call to **next()** (p. 1790) or **previous()** (p. 1902).

6.367.2 Constructor & Destructor Documentation

6.367.2.1 template<typename E > virtual decaf::util::ListIterator< E >::~ListIterator () [inline, virtual]

6.367.3 Member Function Documentation

6.367.3.1 template<typename E > virtual void decaf::util::ListIterator< E >::add (const E & e) [pure virtual]

Inserts the specified element into the list (optional operation). The element is inserted immediately before the next element that would be returned by next, if any, and after the next element that would be returned by previous, if any. (If the list contains no elements, the new element becomes the sole element on the list.) The new element is inserted before the implicit cursor: a subsequent call to next would be unaffected, and a subsequent call to previous would return the new element. (This call increases by one the value that would be returned by a call to nextIndex or previousIndex.)

Parameters:

e The element to insert into the **List** (p. 1889).

Exceptions:

UnsupportedOperationException if the add method is not supported by this list iterator.

IllegalArgumentException if some aspect of this element prevents it from being added to this list.

6.367.3.2 template<typename E > virtual bool decaf::util::ListIterator< E >::hasPrevious () const [pure virtual]

Returns true if this list iterator has more elements when traversing the list in the reverse direction. (In other words, returns true if previous would return an element rather than throwing an exception.)

Returns:

true if the list iterator has more elements when traversing the list in the reverse direction.

Implemented in **decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator** (p. 590).

6.367.3.3 template<typename E > virtual int decaf::util::ListIterator< E >::nextIndex () const [pure virtual]

Returns the index of the element that would be returned by a subsequent call to next. (Returns list size if the list iterator is at the end of the list.)

Returns:

the index of the element that would be returned by a subsequent call to next, or list size if list iterator is at end of list.

Implemented in **decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator** (p. 591).

6.367.3.4 template<typename E > virtual E decaf::util::ListIterator< E >::previous () [pure virtual]

Returns the previous element in the list. This method may be called repeatedly to iterate through the list backwards, or intermixed with calls to next to go back and forth. (Note that alternating calls to next and previous will return the same element repeatedly.)

Returns:

the previous element in the list.

Exceptions:

NoSuchElementException *(p. 2247)* if the iteration has no previous element.

Implemented in **decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator** (p. 591).

6.367.3.5 template<typename E > virtual int decaf::util::ListIterator< E >::previousIndex () const [pure virtual]

Returns the index of the element that would be returned by a subsequent call to previous. (Returns -1 if the list iterator is at the beginning of the list.)

Returns:

the index of the element that would be returned by a subsequent call to previous, or -1 if list iterator is at beginning of list.

Implemented in **decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator** (p. 591).

6.367.3.6 template<typename E > virtual void decaf::util::ListIterator< E >::set (const E & *e*) [pure virtual]

Replaces the last element returned by next or previous with the specified element (optional operation). This call can be made only if neither **ListIterator.remove** (p. 1790) nor **ListIterator.add** (p. 1901) have been called after the last call to next or previous.

Parameters:

e The element with which to replace the last element returned by next or previous.

Exceptions:

UnsupportedOperationException if the add method is not supported by this list iterator.

IllegalArgumentException if some aspect of this element prevents it from being added to this list.

IllegalStateException if neither next nor previous have been called, or remove or add have been called after the last call to next or previous.

The documentation for this class was generated from the following file:

- src/main/decaf/util/**ListIterator.h**

6.368 activemq::commands::LocalTransactionId Class Reference

`#include <src/main/activemq/commands/LocalTransactionId.h>`Inheritance diagram for activemq::commands::LocalTransactionId:

Public Types

- typedef **decaf::lang::PointerComparator< LocalTransactionId > COMPARATOR**

Public Member Functions

- **LocalTransactionId** ()
- **LocalTransactionId** (const **LocalTransactionId** &other)
- virtual ~**LocalTransactionId** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **LocalTransactionId** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual bool **isLocalTransactionId** () const
- virtual long long **getValue** () const
- virtual void **setValue** (long long **value**)
- virtual const **Pointer< ConnectionId >** & **getConnectionId** () const
- virtual **Pointer< ConnectionId >** & **getConnectionId** ()
- virtual void **setConnectionId** (const **Pointer< ConnectionId >** &**connectionId**)
- virtual int **compareTo** (const **LocalTransactionId** &**value**) const
- virtual bool **equals** (const **LocalTransactionId** &**value**) const
- virtual bool **operator==** (const **LocalTransactionId** &**value**) const
- virtual bool **operator<** (const **LocalTransactionId** &**value**) const
- **LocalTransactionId** & **operator=** (const **LocalTransactionId** &other)
- int **getHashCode** () const

Static Public Attributes

- static const unsigned char **ID_LOCALTRANSACTIONID** = 111

Protected Attributes

- long long **value**
- **Pointer< ConnectionId > connectionId**

6.368.1 Member Typedef Documentation

6.368.1.1 typedef decaf::lang::PointerComparator<LocalTransactionId> activemq::commands::LocalTransactionId::COMPARATOR

Reimplemented from **activemq::commands::TransactionId** (p. 3082).

6.368.2 Constructor & Destructor Documentation

6.368.2.1 activemq::commands::LocalTransactionId::LocalTransactionId ()

6.368.2.2 activemq::commands::LocalTransactionId::LocalTransactionId (const LocalTransactionId & *other*)

6.368.2.3 virtual activemq::commands::LocalTransactionId::~LocalTransactionId () [virtual]

6.368.3 Member Function Documentation

6.368.3.1 virtual LocalTransactionId* activemq::commands::LocalTransactionId::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.368.3.2 virtual int activemq::commands::LocalTransactionId::compareTo (const LocalTransactionId & *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.368.3.3 virtual void activemq::commands::LocalTransactionId::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.368.3.4 virtual bool activemq::commands::LocalTransactionId::equals (const LocalTransactionId & *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.368.3.5 virtual bool activemq::commands::LocalTransactionId::equals (const DataStructure * *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.368.3.6 virtual Pointer<ConnectionId>& activemq::commands::LocalTransactionId::getConnectionId () [virtual]

6.368.3.7 virtual const Pointer<ConnectionId>& activemq::commands::LocalTransactionId::getConnectionId () const [virtual]

6.368.3.8 virtual unsigned char activemq::commands::LocalTransactionId::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.368.3.9 int activemq::commands::LocalTransactionId::getHashCode () const

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.368.3.10 virtual long long activemq::commands::LocalTransactionId::getValue () const [virtual]

6.368.3.11 virtual bool activemq::commands::LocalTransactionId::isLocalTransactionId () const [inline, virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.368.3.12 virtual bool activemq::commands::LocalTransactionId::operator< (const LocalTransactionId & *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.368.3.13 LocalTransactionId& activemq::commands::LocalTransactionId::operator= (const LocalTransactionId & *other*)

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.368.3.14 virtual bool activemq::commands::LocalTransactionId::operator== (const LocalTransactionId & *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.368.3.15 virtual void activemq::commands::LocalTransactionId::setConnectionId (const Pointer< ConnectionId > & *connectionId*) [virtual]

6.368.3.16 virtual void activemq::commands::LocalTransactionId::setValue (long long *value*) [virtual]

6.368.3.17 virtual std::string activemq::commands::LocalTransactionId::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::TransactionId** (p. 3085).

6.368.4 Field Documentation

6.368.4.1 Pointer<ConnectionId> activemq::commands::LocalTransactionId::connectionId [protected]

6.368.4.2 const unsigned char activemq::commands::LocalTransactionId::ID_LOCALTRANSACTIONID = 111 [static]

6.368.4.3 long long activemq::commands::LocalTransactionId::value [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**LocalTransactionId.h**

6.369 activemq::wireformat::openwire::marshal::generated::LocalTransac Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **LocalTransactionIdMarshaller** (p. 1907).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/LocalTransactionIdMarshaller.h`
diagram for activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller:

Public Member Functions

- **LocalTransactionIdMarshaller** ()
- virtual ~**LocalTransactionIdMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.369.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **LocalTransactionIdMarshaller** (p. 1907). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.369.2 Constructor & Destructor Documentation

6.369.2.1 activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller::Local

() [inline]

6.369.2.2 virtual activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller::~Loca

() [inline, virtual]

6.369.3 Member Function Documentation

6.369.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller::createO

() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.369.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller::getData

() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.369.3.3 virtual void activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller::looseMa

(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3087).

6.369.3.4 virtual void activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller::looseUn (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3087).

6.369.3.5 virtual int activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller::tightMa (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3088).

6.369.3.6 virtual void activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller::tightMa (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3088).

6.369.3.7 virtual void activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller::tightUn (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3088).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**LocalTransactionIdMarshaller.h**

6.370 decaf::util::concurrent::Lock Class Reference

A wrapper class around a given synchronization mechanism that provides automatic release upon destruction.

`#include <src/main/decaf/util/concurrent/Lock.h>`

Public Member Functions

- **Lock** (**Synchronizable** *object, const bool intiallyLocked=true)

  Constructor - initializes the object member and ***locks*** *(p. 133) the object if desired.*

- virtual ~**Lock** ()

  Destructor - Unlocks the object if it is locked.

- void **lock** ()

  Locks the object.

- void **unlock** ()

  Unlocks the object if it is already locked, otherwise a call to this method has no effect.

- bool **isLocked** () const

  Indicates whether or not the object is locked.

6.370.1 Detailed Description

A wrapper class around a given synchronization mechanism that provides automatic release upon destruction.

Since:

1.0

6.370.2 Constructor & Destructor Documentation

6.370.2.1 decaf::util::concurrent::Lock::Lock (Synchronizable * *object*, const bool *intiallyLocked* = `true`)

Constructor - initializes the object member and **locks** (p. 133) the object if desired.

Parameters:

object The sync object to control

intiallyLocked If true, the object will automatically be locked.

6.370.2.2 virtual decaf::util::concurrent::Lock::~Lock () `[virtual]`

Destructor - Unlocks the object if it is locked.

6.370.3 Member Function Documentation

6.370.3.1 bool decaf::util::concurrent::Lock::isLocked () const [inline]

Indicates whether or not the object is locked.

Returns:

true if the object is locked, otherwise false.

6.370.3.2 void decaf::util::concurrent::Lock::lock ()

Locks the object.

6.370.3.3 void decaf::util::concurrent::Lock::unlock ()

Unlocks the object if it is already locked, otherwise a call to this method has no effect.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Lock.h**

6.371 decaf::util::concurrent::locks::Lock Class Reference

Lock (p. 1913) implementations provide more extensive locking operations than can be obtained using synchronized statements.

`#include <src/main/decaf/util/concurrent/locks/Lock.h>`Inheritance diagram for decaf::util::concurrent::locks::Lock:

Public Member Functions

- virtual ~**Lock** ()
- virtual void **lock** ()=0

  Acquires the lock.

- virtual void **lockInterruptibly** ()=0

  Acquires the lock unless the current thread is interrupted.

- virtual bool **tryLock** ()=0

  Acquires the lock only if it is free at the time of invocation.

- virtual bool **tryLock** (long long time, const **TimeUnit** &unit)=0

  Acquires the lock if it is free within the given waiting time and the current thread has not been interrupted.

- virtual void **unlock** ()=0

  Releases the lock.

- virtual **Condition** * **newCondition** ()=0

  *Returns a new **Condition** (p. 1071) instance that is bound to this **Lock** (p. 1913) instance.*

- virtual std::string **toString** () const =0

6.371.1 Detailed Description

Lock (p. 1913) implementations provide more extensive locking operations than can be obtained using synchronized statements. They allow more flexible structuring, may have quite different properties, and may support multiple associated **Condition** (p. 1071) objects.

A lock is a tool for controlling access to a shared resource by multiple threads. Commonly, a lock provides exclusive access to a shared resource: only one thread at a time can acquire the lock and all access to the shared resource requires that the lock be acquired first. However, some **locks** (p. 133) may allow **concurrent** (p. 129) access to a shared resource, such as the read lock of a **ReadWriteLock** (p. 2523).

While the scoping mechanism for synchronized statements makes it much easier easier to program with monitor **locks** (p. 133), and helps avoid many common programming errors involving **locks** (p. 133), there are occasions where you need to work with **locks** (p. 133) in a more flexible way. For example, some algorithms for traversing concurrently accessed data structures require the use of "hand-over-hand" or "chain locking": you acquire the lock of node A, then node B, then release A and acquire C, then release B and acquire D and so on. Implementations of the **Lock**

(p. 1913) interface enable the use of such techniques by allowing a lock to be acquired and released in different scopes, and allowing multiple **locks** (p. 133) to be acquired and released in any order.

With this increased flexibility comes additional responsibility. The absence of block-structured locking removes the automatic release of **locks** (p. 133) that occurs with synchronized statements. In most cases, the following idiom should be used:

Lock (p. 1913) l = ...; l.lock(); try { // access the resource protected by this lock } catch(...) { l.unlock(); }

When locking and unlocking occur in different scopes, care must be taken to ensure that all **code** (p. 999) that is executed while the lock is held is protected by try-catch ensure that the lock is released when necessary.

Lock (p. 1913) implementations provide additional functionality over the use of synchronized methods and statements by providing a non-blocking attempt to acquire a lock (**tryLock()** (p. 1917)), an attempt to acquire the lock that can be interrupted (**lockInterruptibly()** (p. 1915), and an attempt to acquire the lock that can timeout (tryLock(long, TimeUnit)).

Note that **Lock** (p. 1913) instances are just normal objects and can themselves be used as the target in a synchronized statement.

The three forms of lock acquisition (interruptible, non-interruptible, and timed) may differ in their performance characteristics, ordering guarantees, or other implementation qualities. Further, the ability to interrupt the ongoing acquisition of a lock may not be available in a given **Lock** (p. 1913) class. Consequently, an implementation is not required to define exactly the same guarantees or semantics for all three forms of lock acquisition, nor is it required to support interruption of an ongoing lock acquisition. An implementation is required to clearly document the semantics and guarantees provided by each of the locking methods. It must also obey the interruption semantics as defined in this interface, to the extent that interruption of lock acquisition is supported: which is either totally, or only on method entry.

As interruption generally implies cancellation, and checks for interruption are often infrequent, an implementation can favor responding to an interrupt over normal method return. This is true even if it can be shown that the interrupt occurred after another action may have unblocked the thread. An implementation should document this behavior.

Since:

1.0

6.371.2 Constructor & Destructor Documentation

6.371.2.1 virtual decaf::util::concurrent::locks::Lock::~Lock () [virtual]

6.371.3 Member Function Documentation

6.371.3.1 virtual void decaf::util::concurrent::locks::Lock::lock () [pure virtual]

Acquires the lock. If the lock is not available then the current thread becomes disabled for thread scheduling purposes and lies dormant until the lock has been acquired.

Implementation Considerations

A **Lock** (p. 1913) implementation may be able to detect erroneous use of the lock, such as an invocation that would cause deadlock, and may throw an exception in such circumstances. The circumstances and the exception type must be documented by that **Lock** (p. 1913) implementation.

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

Implemented in **decaf::util::concurrent::locks::ReentrantLock** (p. 2539).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::add(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addIfAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::clear(), decaf::util::concurrent::CopyOnWriteArrayList< E >::contains(), decaf::util::concurrent::CopyOnWriteArrayList< E >::copy(), decaf::util::concurrent::CopyOnWriteArrayList< E >::get(), decaf::util::concurrent::CopyOnWriteArrayList< E >::indexOf(), decaf::util::concurrent::CopyOnWriteArrayList< E >::isEmpty(), decaf::util::concurrent::CopyOnWriteArrayList< E >::iterator(), decaf::util::concurrent::CopyOnWriteArrayList< E >::lastIndexOf(), decaf::util::concurrent::CopyOnWriteArrayList< E >::listIterator(), decaf::util::concurrent::CopyOnWriteArrayList< E >::lock(), decaf::util::concurrent::CopyOnWriteArrayList< E >::operator=(), decaf::util::concurrent::CopyOnWriteArrayList< E >::remove(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAt(), decaf::util::concurrent::CopyOnWriteArrayList< E >::retainAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::set(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::util::concurrent::CopyOnWriteArrayList< E >::toArray(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::toString().

6.371.3.2 virtual void decaf::util::concurrent::locks::Lock::lockInterruptibly () [pure virtual]

Acquires the lock unless the current thread is interrupted. Acquires the lock if it is available and returns immediately.

If the lock is not available then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of two things happens:

∗ The lock is acquired by the current thread; or ∗ Some other thread interrupts the current thread, and interruption of lock acquisition is supported.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while acquiring the lock, and interruption of lock acquisition is supported,

then InterruptedException is thrown and the current thread's interrupted status is cleared.

Implementation Considerations

The ability to interrupt a lock acquisition in some implementations may not be possible, and if possible may be an expensive operation. The programmer should be aware that this may be the case. An implementation should document when this is the case.

An implementation can favor responding to an interrupt over normal method return.

A **Lock** (p. 1913) implementation may be able to detect erroneous use of the lock, such as an invocation that would cause deadlock, and may throw an exception in such circumstances. The circumstances and the exception type must be documented by that **Lock** (p. 1913) implementation.

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

InterruptedException if the current thread is interrupted while acquiring the lock (and interruption of lock acquisition is supported).

Implemented in **decaf::util::concurrent::locks::ReentrantLock** (p. 2539).

6.371.3.3 virtual Condition* decaf::util::concurrent::locks::Lock::newCondition () [pure virtual]

Returns a new **Condition** (p. 1071) instance that is bound to this **Lock** (p. 1913) instance. Before waiting on the condition the lock must be held by the current thread. A call to **Condition.await()** (p. 1073) will atomically release the lock before waiting and re-acquire the lock before the wait returns.

Implementation Considerations

The exact operation of the **Condition** (p. 1071) instance depends on the **Lock** (p. 1913) implementation and must be documented by that implementation.

Returns:

A new **Condition** (p. 1071) instance for this **Lock** (p. 1913) instance the caller must delete the returned **Condition** (p. 1071) object when done with it.

Exceptions:

RuntimeException if an error occurs while creating the **Condition** (p. 1071).

UnsupportedOperationException if this **Lock** (p. 1913) implementation does not support conditions

Implemented in **decaf::util::concurrent::locks::ReentrantLock** (p. 2540).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::CopyOnWriteArrayList().

6.371.3.4 virtual std::string decaf::util::concurrent::locks::Lock::toString () const [pure virtual]

Returns:

a string representation of the **Lock** (p. 1913) useful for debugging purposes.

Implemented in **decaf::util::concurrent::locks::ReentrantLock** (p. 2540).

6.371.3.5 virtual bool decaf::util::concurrent::locks::Lock::tryLock (long long *time*, const TimeUnit & *unit*) [pure virtual]

Acquires the lock if it is free within the given waiting time and the current thread has not been interrupted. If the lock is available this method returns immediately with the value true. If the lock is not available then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of three things happens:

* The lock is acquired by the current thread; or * Some other thread interrupts the current thread, and interruption of lock acquisition is supported; or * The specified waiting time elapses

If the lock is acquired then the value true is returned.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while acquiring the lock, and interruption of lock acquisition is supported,

then InterruptedException is thrown and the current thread's interrupted status is cleared.

If the specified waiting time elapses then the value false is returned. If the time is less than or equal to zero, the method will not wait at all.

Implementation Considerations

The ability to interrupt a lock acquisition in some implementations may not be possible, and if possible may be an expensive operation. The programmer should be aware that this may be the case. An implementation should document when this is the case.

An implementation can favor responding to an interrupt over normal method return, or reporting a timeout.

A **Lock** (p. 1913) implementation may be able to detect erroneous use of the lock, such as an invocation that would cause deadlock, and may throw an (unchecked) exception in such circumstances. The circumstances and the exception type must be documented by that **Lock** (p. 1913) implementation.

Parameters:

time the maximum time to wait for the lock

unit the time unit of the time argument

Returns:

true if the lock was acquired and false if the waiting time elapsed before the lock was acquired

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

InterruptedException if the current thread is interrupted while acquiring the lock (and interruption of lock acquisition is supported)

Implemented in **decaf::util::concurrent::locks::ReentrantLock** (p. 2540).

6.371.3.6 virtual bool decaf::util::concurrent::locks::Lock::tryLock () [pure virtual]

Acquires the lock only if it is free at the time of invocation. Acquires the lock if it is available and returns immediately with the value true. If the lock is not available then this method will return immediately with the value false.

A typical usage idiom for this method would be:

Lock (p. 1913) lock = ...; if (lock.tryLock()) { try { // manipulate protected state } catch(...) { lock.unlock(); } } else { // perform alternative actions }

This usage ensures that the lock is unlocked if it was acquired, and doesn't try to unlock if the lock was not acquired.

Returns:

true if the lock was acquired and false otherwise

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

Implemented in **decaf::util::concurrent::locks::ReentrantLock** (p. 2541).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::tryLock().

6.371.3.7 virtual void decaf::util::concurrent::locks::Lock::unlock () [pure virtual]

Releases the lock. Implementation Considerations

A **Lock** (p. 1913) implementation will usually impose restrictions on which thread can release a lock (typically only the holder of the lock can release it) and may throw an exception if the restriction is violated. Any restrictions and the exception type must be documented by that **Lock** (p. 1913) implementation.

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

IllegalMonitorStateException if the current thread is not the owner of the lock.

Implemented in **decaf::util::concurrent::locks::ReentrantLock** (p. 2542).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::add(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addIfAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::clear(), decaf::util::concurrent::CopyOnWriteArrayList< E >::contains(), decaf::util::concurrent::CopyOnWriteArrayList< E >::copy(), decaf::util::concurrent::CopyOnWriteArrayList< E >::get(), decaf::util::concurrent::CopyOnWriteArrayList< E >::indexOf(), decaf::util::concurrent::CopyOnWriteArrayList< E >::isEmpty(), decaf::util::concurrent::CopyOnWriteArrayList< E >::iterator(), decaf::util::concurrent::CopyOnWriteArrayList< E >::lastIndexOf(), decaf::util::concurrent::CopyOnWriteArrayList< E >::listIterator(), decaf::util::concurrent::CopyOnWriteArrayList< E >::operator=(), decaf::util::concurrent::CopyOnWriteArrayList< E >::remove(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAt(), decaf::util::concurrent::CopyOnWriteArrayList< E >::retainAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::set(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::util::concurrent::CopyOnWriteArrayList< E >::toArray(), decaf::util::concurrent::CopyOnWriteArrayList< E >::toString(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::unlock().

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/locks/**Lock.h**

6.372 decaf::util::concurrent::locks::LockSupport Class Reference

Basic thread blocking primitives for creating **locks** (p. 133) and other synchronization classes.

`#include <src/main/decaf/util/concurrent/locks/LockSupport.h>`

Public Member Functions

- ~**LockSupport** ()

Static Public Member Functions

- static void **unpark** (**decaf::lang::Thread** *thread)

  Makes available the permit for the given thread, if it was not already available.

- static void **park** ()

  Disables the current thread for thread scheduling purposes unless the permit is available.

- static void **parkNanos** (long long nanos)

  Disables the current thread for thread scheduling purposes, for up to the specified waiting time, unless the permit is available.

- static void **parkUntil** (long long deadline)

  Disables the current thread for thread scheduling purposes, until the specified deadline, unless the permit is available.

6.372.1 Detailed Description

Basic thread blocking primitives for creating **locks** (p. 133) and other synchronization classes. This class associates, with each thread that uses it, a permit (in the sense of the **Semaphore** (p. 2633) class). A call to park will return immediately if the permit is available, consuming it in the process; otherwise it may block. A call to unpark makes the permit available, if it was not already available. (Unlike with Semaphores though, permits do not accumulate. There is at most one.)

Methods park and unpark provide efficient means of blocking and unblocking threads Races between one thread invoking park and another thread trying to unpark it will preserve liveness, due to the permit. Additionally, park will return if the caller's thread was interrupted, and timeout versions are supported. The park method may also return at any other time, for "no reason", so in general must be invoked within a loop that rechecks conditions upon return. In this sense park serves as an optimization of a "busy wait" that does not waste as much time spinning, but must be paired with an unpark to be effective.

These methods are designed to be used as tools for creating higher-level synchronization utilities, and are not in themselves useful for most concurrency control applications. The park method is designed for use only in constructions of the form:

while (!canProceed()) { ... LockSupport.park(this); }

where neither canProceed nor any other actions prior to the call to park entail locking or blocking. Because only one permit is associated with each thread, any intermediary uses of park could interfere with its intended effects.

Sample Usage. Here is a sketch of a first-in-first-out non-reentrant lock class:

class FIFOMutex { private:

AtomicBoolean locked; ConcurrentLinkedQueue<Thread*> waiters;

public:

void lock() {

bool wasInterrupted = false; Thread* current = Thread::currentThread(); waiters.add(current);

// Block while not first in queue or cannot acquire lock while(waiters.peek() != current || !locked.compareAndSet(false, true)) {

LockSupport.park(this); if(Thread::interrupted()) // ignore interrupts while waiting wasInterrupted = true; }

waiters.remove(); if(wasInterrupted) // reassert interrupt status on exit current.interrupt(); }

void unlock() { locked.set(false); **LockSupport.unpark** (p. 1921)(waiters.peek()); } };

Since:

1.0

6.372.2 Constructor & Destructor Documentation

6.372.2.1 decaf::util::concurrent::locks::LockSupport::~LockSupport ()

6.372.3 Member Function Documentation

6.372.3.1 static void decaf::util::concurrent::locks::LockSupport::park () [static]

Disables the current thread for thread scheduling purposes unless the permit is available. If the permit is available then it is consumed and the call returns immediately; otherwise the current thread becomes disabled for thread scheduling purposes and lies dormant until one of three things happens:

* Some other thread invokes unpark with the current thread as the target; or * Some other thread interrupts the current thread; or * The call spuriously (that is, for no reason) returns.

This method does not report which of these caused the method to return. Callers should re-check the conditions which caused the thread to park in the first place. Callers may also determine, for example, the interrupt status of the thread upon return.

6.372.3.2 static void decaf::util::concurrent::locks::LockSupport::parkNanos (long long *nanos*) [static]

Disables the current thread for thread scheduling purposes, for up to the specified waiting time, unless the permit is available. If the permit is available then it is consumed and the call returns immediately; otherwise the current thread becomes disabled for thread scheduling purposes and lies dormant until one of four things happens:

* Some other thread invokes unpark with the current thread as the target; or * Some other thread

interrupts the current thread; or * The specified waiting time elapses; or * The call spuriously (that is, for no reason) returns.

This method does not report which of these caused the method to return. Callers should re-check the conditions which caused the thread to park in the first place. Callers may also determine, for example, the interrupt status of the thread, or the elapsed time upon return.

Parameters:

nanos the maximum number of nanoseconds to wait

6.372.3.3 static void decaf::util::concurrent::locks::LockSupport::parkUntil (long long *deadline*) [static]

Disables the current thread for thread scheduling purposes, until the specified deadline, unless the permit is available. If the permit is available then it is consumed and the call returns immediately; otherwise the current thread becomes disabled for thread scheduling purposes and lies dormant until one of four things happens:

* Some other thread invokes unpark with the current thread as the target; or * Some other thread interrupts the current thread; or * The specified deadline passes; or * The call spuriously (that is, for no reason) returns.

This method does not report which of these caused the method to return. Callers should re-check the conditions which caused the thread to park in the first place. Callers may also determine, for example, the interrupt status of the thread, or the current time upon return.

Parameters:

deadline the absolute time, in milliseconds from the Epoch, to wait until

6.372.3.4 static void decaf::util::concurrent::locks::LockSupport::unpark (decaf::lang::Thread * *thread*) [static]

Makes available the permit for the given thread, if it was not already available. If the thread was blocked on park then it will unblock. Otherwise, its next call to park is guaranteed not to block. This operation is not guaranteed to have any effect at all if the given thread has not been started.

Parameters:

thread the thread to unport, or NULL in which case the method has no effect.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/locks/**LockSupport.h**

6.373 decaf::util::logging::Logger Class Reference

A **Logger** (p. 1922) object is used to log messages for a specific system or application component.

`#include <src/main/decaf/util/logging/Logger.h>`

Public Member Functions

- virtual ~**Logger** ()
- const std::string & **getName** () const

  *Gets the name of this **Logger** (p. 1922).*

- **Logger** * **getParent** () const

  *Gets the parent of this **Logger** (p. 1922) which will be the nearest existing **Logger** (p. 1922) in this Loggers namespace.*

- void **setParent** (**Logger** *parent)

  ***Set** (p. 2700) the parent for this **Logger** (p. 1922).*

- void **addHandler** (**Handler** *handler)

  *Add a log **Handler** (p. 1577) to receive **logging** (p. 134) messages.*

- void **removeHandler** (**Handler** *handler)

  *Removes the specified **Handler** (p. 1577) from this logger, ownership of the **Handler** (p. 1577) pointer is returned to the caller.*

- const std::list< **Handler** * > & **getHandlers** () const

  Gets a vector containing all the handlers that this class has been assigned to use.

- void **setFilter** (**Filter** *filter)

  ***Set** (p. 2700) a filter to control output on this **Logger** (p. 1922).*

- const **Filter** * **getFilter** () const

  *Gets the **Filter** (p. 1507) object that this class is using.*

- **Level** **getLevel** () const

  *Get the log **Level** (p. 1846) that has been specified for this **Logger** (p. 1922).*

- void **setLevel** (const **Level** &level)

  ***Set** (p. 2700) the log level specifying which message levels will be logged by this logger.*

- bool **getUseParentHandlers** () const

  Discover whether or not this logger is sending its output to its parent logger.

- void **setUseParentHandlers** (bool value)

  *Specify whether or not this logger should send its output to it's parent **Logger** (p. 1922).*

- virtual void **entering** (const std::string &blockName, const std::string &file, const int line)

  Logs an Block Enter message.

- virtual void **exiting** (const std::string &blockName, const std::string &file, const int line)

  Logs an Block Exit message.

- virtual void **severe** (const std::string &file, const int line, const std::string functionName, const std::string &message)

  Log a SEVERE ***Level*** *(*p. *1846)* *Log.*

- virtual void **warning** (const std::string &file, const int line, const std::string functionName, const std::string &message)

  Log a WARN ***Level*** *(*p. *1846)* *Log.*

- virtual void **info** (const std::string &file, const int line, const std::string functionName, const std::string &message)

  Log a INFO ***Level*** *(*p. *1846)* *Log.*

- virtual void **debug** (const std::string &file, const int line, const std::string functionName, const std::string &message)

  Log a DEBUG ***Level*** *(*p. *1846)* *Log.*

- virtual void **config** (const std::string &file, const int line, const std::string functionName, const std::string &message)

  Log a CONFIG ***Level*** *(*p. *1846)* *Log.*

- virtual void **fine** (const std::string &file, const int line, const std::string functionName, const std::string &message)

  Log a FINE ***Level*** *(*p. *1846)* *Log.*

- virtual void **finer** (const std::string &file, const int line, const std::string functionName, const std::string &message)

  Log a FINER ***Level*** *(*p. *1846)* *Log.*

- virtual void **finest** (const std::string &file, const int line, const std::string functionName, const std::string &message)

  Log a FINEST ***Level*** *(*p. *1846)* *Log.*

- virtual void **throwing** (const std::string &file, const int line, const std::string functionName, const **decaf::lang::Throwable** &thrown)

  Log throwing an exception.

- virtual bool **isLoggable** (const **Level** &level) const

  Check if a message of the given level would actually be logged by this logger.

- virtual void **log** (**LogRecord** &record)

  Log a ***LogRecord*** *(*p. *1947)**.*

- virtual void **log** (const **Level** &level, const std::string &message)

  Log a message, with no arguments.

- virtual void **log** (const **Level** &levels, const std::string &file, const int line, const std::string &message,...)

  Log a message, with the list of params that is formatted into the message string.

- virtual void **log** (const **Level** &level, const std::string &file, const int line, const std::string &message, **lang::Exception** &ex)

  Log a message, with associated Throwable information.

Static Public Member Functions

- static **Logger** * **getAnonymousLogger** ()

  Creates an anonymous logger.

- static **Logger** * **getLogger** (const std::string &name)

  Find or create a logger for a named subsystem.

Protected Member Functions

- **Logger** (const std::string &name)

  *Creates a new instance of the **Logger** (p. 1922) with the given name.*

6.373.1 Detailed Description

A **Logger** (p. 1922) object is used to log messages for a specific system or application component. Loggers are normally named, using a hierarchical dot-separated namespace. **Logger** (p. 1922) names can be arbitrary strings, but they should normally be based on the namespace or class name of the logged component, such as **decaf.net** (p. 116) or org.apache.decaf. In addition it is possible to create "anonymous" Loggers that are not stored in the **Logger** (p. 1922) namespace.

Logger (p. 1922) objects may be obtained by calls on one of the getLogger factory methods. These will either create a new **Logger** (p. 1922) or return a suitable existing **Logger** (p. 1922).

Logging messages will be forwarded to registered **Handler** (p. 1577) objects, which can forward the messages to a variety of destinations, including consoles, files, OS logs, etc.

Each **Logger** (p. 1922) keeps track of a "parent" **Logger** (p. 1922), which is its nearest existing ancestor in the **Logger** (p. 1922) namespace.

Each **Logger** (p. 1922) has a "Level" associated with it. This reflects a minimum **Level** (p. 1846) that this logger cares about. If a Logger's level is set to **Level::INHERIT** (p. 1850), then its effective level is inherited from its parent, which may in turn obtain it recursively from its parent, and so on up the tree.

The log level can be configured based on the properties from the **logging** (p. 134) configuration file, as described in the description of the **LogManager** (p. 1941) class. However it may also be dynamically changed by calls on the **Logger.setLevel** (p. 1931) method. If a logger's level is changed the change may also affect child loggers, since any child logger that has 'inherit' as its level will inherit its effective level from its parent.

On each **logging** (p. 134) call the **Logger** (p. 1922) initially performs a cheap check of the request level (e.g. SEVERE or FINE) against the effective log level of the logger. If the request level is lower than the log level, the **logging** (p. 134) call returns immediately.

After passing this initial (cheap) test, the **Logger** (p. 1922) will allocate a **LogRecord** (p. 1947) to describe the **logging** (p. 134) message. It will then call a **Filter** (p. 1507) (if present) to do a

more detailed check on whether the record should be published. If that passes it will then publish the **LogRecord** (p. 1947) to its output Handlers. By default, loggers also publish to their parent's Handlers, recursively up the tree.

Formatting is the responsibility of the output **Handler** (p. 1577), which will typically call a **Formatter** (p. 1556).

Note that formatting need not occur synchronously. It may be delayed until a **LogRecord** (p. 1947) is actually written to an external sink.

All methods on **Logger** (p. 1922) are thread safe.

Since:

1.0

6.373.2 Constructor & Destructor Documentation

6.373.2.1 decaf::util::logging::Logger::Logger (const std::string & *name*) [protected]

Creates a new instance of the **Logger** (p. 1922) with the given name. The logger will be initially configured with a null **Level** (p. 1846) and with useParentHandlers true.

Parameters:

name A name for the logger. This should be a dot-separated name and should normally be based on the package name or class name of the subsystem, such as **decaf.net** (p. 116) or org.apache.decaf. It may be empty for anonymous Loggers.

6.373.2.2 virtual decaf::util::logging::Logger::~Logger () [virtual]

6.373.3 Member Function Documentation

6.373.3.1 void decaf::util::logging::Logger::addHandler (Handler * *handler*)

Add a log **Handler** (p. 1577) to receive **logging** (p. 134) messages. By default, Loggers also send their output to their parent logger. Typically the root **Logger** (p. 1922) is configured with a set of Handlers that essentially act as default handlers for all loggers.

The ownership of the given **Handler** (p. 1577) is passed to the **Logger** (p. 1922) and the **Handler** (p. 1577) will be deleted when this **Logger** (p. 1922) is destroyed unless the caller first calls removeHandler with the same pointer value as was originally given.

Parameters:

handler A Logging **Handler** (p. 1577)

Exceptions:

NullPointerException if the **Handler** (p. 1577) given is NULL.

6.373.3.2 virtual void decaf::util::logging::Logger::config (const std::string & *file*, const int *line*, const std::string *functionName*, const std::string & *message*) [virtual]

Log a CONFIG **Level** (p. 1846) Log. If the logger is currently enabled for the CONFIG message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects.

Parameters:

file The file name where the log was generated.

line The line number where the log was generated.

functionName The name of the function that logged this.

message The message to log at this **Level** (p. 1846).

6.373.3.3 virtual void decaf::util::logging::Logger::debug (const std::string & *file*, const int *line*, const std::string *functionName*, const std::string & *message*) [virtual]

Log a DEBUG **Level** (p. 1846) Log. If the logger is currently enabled for the DEBUG message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects.

Parameters:

file The file name where the log was generated.

line The line number where the log was generated.

functionName The name of the function that logged this.

message The message to log at this **Level** (p. 1846).

6.373.3.4 virtual void decaf::util::logging::Logger::entering (const std::string & *blockName*, const std::string & *file*, const int *line*) [virtual]

Logs an Block Enter message. This is a convenience method that is used to tag a block enter, a log record with the given information is logged at the **Level::FINER** (p. 1849) log level.

Parameters:

blockName The source block name, (usually ClassName::MethodName, or MethodName).

file The source file name where this method was called from.

line The source line number where this method was called from.

6.373.3.5 virtual void decaf::util::logging::Logger::exiting (const std::string & *blockName*, const std::string & *file*, const int *line*) [virtual]

Logs an Block Exit message. This is a convenience method that is used to tag a block enter, a log record with the given information is logged at the **Level::FINER** (p. 1849) log level.

Parameters:

blockName The source block name, (usually ClassName::MethodName, or MethodName).

file The source file name where this method was called from.

line The source line number where this method was called from.

6.373.3.6 virtual void decaf::util::logging::Logger::fine (const std::string & *file*, const int *line*, const std::string *functionName*, const std::string & *message*) [virtual]

Log a FINE **Level** (p. 1846) Log. If the logger is currently enabled for the FINE message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects.

Parameters:

file The file name where the log was generated.

line The line number where the log was generated.

functionName The name of the function that logged this.

message The message to log at this **Level** (p. 1846).

6.373.3.7 virtual void decaf::util::logging::Logger::finer (const std::string & *file*, const int *line*, const std::string *functionName*, const std::string & *message*) [virtual]

Log a FINER **Level** (p. 1846) Log. If the logger is currently enabled for the FINER message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects.

Parameters:

file The file name where the log was generated.

line The line number where the log was generated.

functionName The name of the function that logged this.

message The message to log at this **Level** (p. 1846).

6.373.3.8 virtual void decaf::util::logging::Logger::finest (const std::string & *file*, const int *line*, const std::string *functionName*, const std::string & *message*) [virtual]

Log a FINEST **Level** (p. 1846) Log. If the logger is currently enabled for the FINEST message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects.

Parameters:

file The file name where the log was generated.

line The line number where the log was generated.

functionName The name of the function that logged this.

message The message to log at this **Level** (p. 1846).

6.373.3.9 static Logger* decaf::util::logging::Logger::getAnonymousLogger () [static]

Creates an anonymous logger. The newly created **Logger** (p. 1922) is not registered in the **LogManager** (p. 1941) namespace. There will be no access checks on updates to the logger. Even although the new logger is anonymous, it is configured to have the root logger ("") as its parent. This means that by default it inherits its effective level and handlers from the root logger.

The caller is responsible for destroying the returned logger.

Returns:

Newly created anonymous logger

6.373.3.10 const Filter* decaf::util::logging::Logger::getFilter () const [inline]

Gets the **Filter** (p. 1507) object that this class is using.

Returns:

the **Filter** (p. 1507) in use, (can be NULL).

6.373.3.11 const std::list<Handler*>& decaf::util::logging::Logger::getHandlers () const

Gets a vector containing all the handlers that this class has been assigned to use.

Returns:

a list of handlers that are used by this logger

6.373.3.12 Level decaf::util::logging::Logger::getLevel () const [inline]

Get the log **Level** (p. 1846) that has been specified for this **Logger** (p. 1922). The result may be the INHERIT level, which means that this logger's effective level will be inherited from its parent.

Returns:

the level that is currently set

6.373.3.13 static Logger* decaf::util::logging::Logger::getLogger (const std::string & *name*) [static]

Find or create a logger for a named subsystem. If a logger has already been created with the given name it is returned. Otherwise a new logger is created.

If a new logger is created its log level will be configured based on the **LogManager** (p. 1941) and it will configured to also send **logging** (p. 134) output to its parent loggers Handlers. It will be registered in the **LogManager** (p. 1941) global namespace.

Parameters:

name - A name for the logger. This should be a dot-separated name and should normally be based on the package name or class name of the subsystem, such as **cms** (p. 91) or **activemq.core.ActiveMQConnection** (p. 232)

Returns:

a suitable logger.

6.373.3.14 const std::string& decaf::util::logging::Logger::getName () const [inline]

Gets the name of this **Logger** (p. 1922).

Returns:

logger name

6.373.3.15 Logger* decaf::util::logging::Logger::getParent () const [inline]

Gets the parent of this **Logger** (p. 1922) which will be the nearest existing **Logger** (p. 1922) in this Loggers namespace. If this is the Root **Logger** (p. 1922) than this method returns NULL.

Returns:

Pointer to this Loggers nearest parent **Logger** (p. 1922).

6.373.3.16 bool decaf::util::logging::Logger::getUseParentHandlers () const [inline]

Discover whether or not this logger is sending its output to its parent logger.

Returns:

true if using Parent Handlers

6.373.3.17 virtual void decaf::util::logging::Logger::info (const std::string & *file*, const int *line*, const std::string *functionName*, const std::string & *message*) [virtual]

Log a INFO **Level** (p. 1846) Log. If the logger is currently enabled for the INFO message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects.

Parameters:

file The file name where the log was generated.

line The line number where the log was generated.

functionName The name of the function that logged this.

message The message to log at this **Level** (p. 1846).

6.373.3.18 virtual bool decaf::util::logging::Logger::isLoggable (const Level & *level*) const [virtual]

Check if a message of the given level would actually be logged by this logger. This check is based on the Loggers effective level, which may be inherited from its parent.

Parameters:

level - a message **logging** (p. 134) level

Returns:

true if the given message level is currently being logged.

6.373.3.19 virtual void decaf::util::logging::Logger::log (const Level & *level*, const std::string & *file*, const int *line*, const std::string & *message*, lang::Exception & *ex*) [virtual]

Log a message, with associated Throwable information. If the logger is currently enabled for the given message level then the given arguments are stored in a **LogRecord** (p. 1947) which is forwarded to all registered output handlers. Note that the thrown argument is stored in the **LogRecord** (p. 1947) thrown property, rather than the **LogRecord** (p. 1947) parameters property. Thus is it processed specially by output Formatters and is not treated as a formatting parameter to the **LogRecord** (p. 1947) message property.

Parameters:

level the **Level** (p. 1846) to log at.

file File that the message was logged in.

line the line number where the message was logged at.

message the message to log.

ex the Exception to log

6.373.3.20 virtual void decaf::util::logging::Logger::log (const Level & *levels*, const std::string & *file*, const int *line*, const std::string & *message*, ...) [virtual]

Log a message, with the list of params that is formatted into the message string. If the logger is currently enabled for the given message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects

Parameters:

level the **Level** (p. 1846) to log at

file the message to log

line the line in the file

... variable length argument to format the message string.

6.373.3.21 virtual void decaf::util::logging::Logger::log (const Level & *level*, const std::string & *message*) [virtual]

Log a message, with no arguments. If the logger is currently enabled for the given message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects

Parameters:

level the **Level** (p. 1846) to log at

message the message to log

6.373.3.22 virtual void decaf::util::logging::Logger::log (LogRecord & *record*) [virtual]

Log a **LogRecord** (p. 1947). All the other **logging** (p. 134) methods in this class call through this method to actually perform any **logging** (p. 134). Subclasses can override this single method to capture all log activity.

Parameters:

record - the **LogRecord** (p. 1947) to be published

6.373.3.23 void decaf::util::logging::Logger::removeHandler (Handler * *handler*)

Removes the specified **Handler** (p. 1577) from this logger, ownership of the **Handler** (p. 1577) pointer is returned to the caller. Returns silently if the given **Handler** (p. 1577) is not found.

Parameters:

handler The **Handler** (p. 1577) to remove

6.373.3.24 void decaf::util::logging::Logger::setFilter (Filter * *filter*)

Set (p. 2700) a filter to control output on this **Logger** (p. 1922). After passing the initial "level" check, the **Logger** (p. 1922) will call this **Filter** (p. 1507) to check if a log record should really be published.

The caller releases ownership of this filter to this logger

Parameters:

filter The **Filter** (p. 1507) to use, (can be NULL).

6.373.3.25 void decaf::util::logging::Logger::setLevel (const Level & *level*) [inline]

Set (p. 2700) the log level specifying which message levels will be logged by this logger. Message levels lower than this value will be discarded. The level value **Level::OFF** (p. 1850) can be used to turn off **logging** (p. 134).

If the new level is the INHERIT **Level** (p. 1846), it means that this node should inherit its level from its nearest ancestor with a specific (non-INHERIT) level value.

Parameters:

level The new **Level** (p. 1846) value to use when **logging** (p. 134).

6.373.3.26 void decaf::util::logging::Logger::setParent (Logger * *parent*) [inline]

Set (p. 2700) the parent for this **Logger** (p. 1922). This method is used by the **LogManager** (p. 1941) to update a **Logger** (p. 1922) when the namespace changes.

It should not be called from application **code** (p. 999).

6.373.3.27 void decaf::util::logging::Logger::setUseParentHandlers (bool *value*) [inline]

Specify whether or not this logger should send its output to it's parent **Logger** (p. 1922). This means that any LogRecords will also be written to the parent's Handlers, and potentially to its parent, recursively up the namespace.

Parameters:

value True is output is to be written to the parent

6.373.3.28 virtual void decaf::util::logging::Logger::severe (const std::string & *file*, const int *line*, const std::string *functionName*, const std::string & *message*) [virtual]

Log a SEVERE **Level** (p. 1846) Log. If the logger is currently enabled for the SEVERE message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects.

Parameters:

file The file name where the log was generated.

line The line number where the log was generated.

functionName The name of the function that logged this.

message The message to log at this **Level** (p. 1846).

6.373.3.29 virtual void decaf::util::logging::Logger::throwing (const std::string & *file*, const int *line*, const std::string *functionName*, const decaf::lang::Throwable & *thrown*) [virtual]

Log throwing an exception. This is a convenience method to log that a method is terminating by throwing an exception. The **logging** (p. 134) is done using the FINER level.

If the logger is currently enabled for the given message level then the given arguments are stored in a **LogRecord** (p. 1947) which is forwarded to all registered output handlers. The LogRecord's message is set to "THROW".

Parameters:

file The file name where the log was generated.

line The line number where the log was generated.

functionName The name of the function that logged this.

thrown The Throwable that will be thrown, will be cloned.

6.373.3.30 virtual void decaf::util::logging::Logger::warning (const std::string & *file*, const int *line*, const std::string *functionName*, const std::string & *message*) [virtual]

Log a WARN **Level** (p. 1846) Log. If the logger is currently enabled for the WARN message level then the given message is forwarded to all the registered output **Handler** (p. 1577) objects.

Parameters:

file The file name where the log was generated.

line The line number where the log was generated.

functionName The name of the function that logged this.

message The message to log at this **Level** (p. 1846).

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**Logger.h**

6.374 decaf::util::logging::LoggerHierarchy Class Reference

`#include <src/main/decaf/util/logging/LoggerHierarchy.h>`

Public Member Functions

- **LoggerHierarchy** ()
- virtual ~**LoggerHierarchy** ()

6.374.1 Constructor & Destructor Documentation

6.374.1.1 decaf::util::logging::LoggerHierarchy::LoggerHierarchy ()

6.374.1.2 virtual decaf::util::logging::LoggerHierarchy::~LoggerHierarchy () [virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**LoggerHierarchy.h**

6.375 activemq::io::LoggingInputStream Class Reference

`#include <src/main/activemq/io/LoggingInputStream.h>`Inheritance diagram for activemq::io::LoggingInputStream:

Public Member Functions

- **LoggingInputStream** (**decaf::io::InputStream** ∗**inputStream**, bool **own**=false)
  Creates a DataInputStream that uses the specified underlying InputStream.
- virtual ∼**LoggingInputStream** ()

Protected Member Functions

- virtual int **doReadByte** ()
- virtual int **doReadArrayBounded** (unsigned char ∗buffer, int size, int offset, int length)

6.375.1 Constructor & Destructor Documentation

6.375.1.1 activemq::io::LoggingInputStream::LoggingInputStream (decaf::io::InputStream ∗ *inputStream*, bool *own* = `false`)

Creates a DataInputStream that uses the specified underlying InputStream.

Parameters:

inputStream the InputStream instance to wrap.

own indicates if this class owns the wrapped string defaults to false.

6.375.1.2 virtual activemq::io::LoggingInputStream::∼LoggingInputStream () `[virtual]`

6.375.2 Member Function Documentation

6.375.2.1 virtual int activemq::io::LoggingInputStream::doReadArrayBounded (unsigned char ∗ *buffer*, int *size*, int *offset*, int *length*) `[protected, virtual]`

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.375.2.2 virtual int activemq::io::LoggingInputStream::doReadByte () `[protected, virtual]`

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

The documentation for this class was generated from the following file:

- src/main/activemq/io/**LoggingInputStream.h**

6.376 activemq::io::LoggingOutputStream Class Reference

OutputStream filter that just logs the data being written.

`#include <src/main/activemq/io/LoggingOutputStream.h>`Inheritance diagram for activemq::io::LoggingOutputStream:

Public Member Functions

- **LoggingOutputStream** (OutputStream *next, bool **own**=false)

  Constructor.

- virtual ~**LoggingOutputStream** ()

Protected Member Functions

- virtual void **doWriteByte** (unsigned char c)
- virtual void **doWriteArrayBounded** (const unsigned char *buffer, int size, int offset, int length)

6.376.1 Detailed Description

OutputStream filter that just logs the data being written.

6.376.2 Constructor & Destructor Documentation

6.376.2.1 activemq::io::LoggingOutputStream::LoggingOutputStream (OutputStream * *next*, bool *own* = `false`)

Constructor.

Parameters:

next The OutputStream to wrap an write logs to.

own If true, this object will control the lifetime of the output stream that it encapsulates.

6.376.2.2 virtual activemq::io::LoggingOutputStream::~LoggingOutputStream () `[virtual]`

6.376.3 Member Function Documentation

6.376.3.1 virtual void activemq::io::LoggingOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) `[protected, virtual]`

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

6.376.3.2 virtual void activemq::io::LoggingOutputStream::doWriteByte (unsigned char *c*) [protected, virtual]

Reimplemented from **decaf::io::FilterOutputStream** (p. 1516).

The documentation for this class was generated from the following file:

- src/main/activemq/io/**LoggingOutputStream.h**

6.377 activemq::transport::logging::LoggingTransport Class Reference

A **transport** (p. 72) filter that logs **commands** (p. 61) as they are sent/received.

`#include <src/main/activemq/transport/logging/LoggingTransport.h>`Inheritance diagram for activemq::transport::logging::LoggingTransport:

Public Member Functions

- **LoggingTransport** (const **Pointer**< **Transport** > **next**)

  Constructor.

- virtual ~**LoggingTransport** ()
- virtual void **onCommand** (const **Pointer**< **Command** > command)

  Event handler for the receipt of a command.

- virtual void **oneway** (const **Pointer**< **Command** > command)

  Sends a one-way command.

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command)

  Sends the given command to the broker and then waits for the response.
  Parameters:

  command *the command to be sent.*
  Returns:

  the response from the broker.
  Exceptions:

  IOException *if an exception occurs during the read of the command.*
  UnsupportedOperationException *if this method is not implemented by this* ***transport*** *(p. 72).*

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command, unsigned int timeout)

  Sends the given command to the broker and then waits for the response.
  Parameters:

  command *The command to be sent.*
  timeout *The time to wait for this response.*
  Returns:

  the response from the broker.
  Exceptions:

  IOException *if an exception occurs during the read of the command.*
  UnsupportedOperationException *if this method is not implemented by this* ***transport*** *(p. 72).*

6.377.1 Detailed Description

A **transport** (p. 72) filter that logs **commands** (p. 61) as they are sent/received.

6.377.2 Constructor & Destructor Documentation

6.377.2.1 activemq::transport::logging::LoggingTransport::LoggingTransport (const Pointer< Transport > *next*)

Constructor.

Parameters:

next - the next **Transport** (p. 3109) in the chain

6.377.2.2 virtual activemq::transport::logging::LoggingTransport::~LoggingTransport () [inline, virtual]

6.377.3 Member Function Documentation

6.377.3.1 virtual void activemq::transport::logging::LoggingTransport::onCommand (const Pointer< Command > *command*) [virtual]

Event handler for the receipt of a command.

Parameters:

command - the received command object.

Reimplemented from **activemq::transport::TransportFilter** (p. 3125).

6.377.3.2 virtual void activemq::transport::logging::LoggingTransport::oneway (const Pointer< Command > *command*) [virtual]

Sends a one-way command. Does not wait for any response from the broker.

Parameters:

command The command to be sent.

Exceptions:

IOException if an exception occurs during writing of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3125).

6.377.3.3 virtual Pointer<Response> activemq::transport::logging::LoggingTransport::request (const Pointer< Command > *command*, unsigned int *timeout*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command The command to be sent.

timeout The time to wait for this response.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Not supported by this class - throws an exception.

Reimplemented from **activemq::transport::TransportFilter** (p. 3126).

6.377.3.4 virtual Pointer<Response> activemq::transport::logging::LoggingTransport::request (const Pointer< Command > *command*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command the command to be sent.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Not supported by this class - throws an exception.

Reimplemented from **activemq::transport::TransportFilter** (p. 3127).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/logging/**LoggingTransport.h**

6.378 decaf::util::logging::LogManager Class Reference

There is a single global **LogManager** (p. 1941) object that is used to maintain a set of shared state about Loggers and log services.

`#include <src/main/decaf/util/logging/LogManager.h>`

Public Member Functions

- virtual ~**LogManager** ()
- bool **addLogger** (**Logger** *logger)

  Add a named logger.

- **Logger** * **getLogger** (const std::string &name)

  *Retrieves or creates a new **Logger** (p. 1922) using the name specified a new logger inherits the configuration of the logger's parent if there is no configuration data for the logger.*

- int **getLoggerNames** (const std::vector< std::string > &names)

  *Gets a list of known **Logger** (p. 1922) Names from this Manager, new loggers added while this method is in progress are not garunteed to be in the list.*

- void **setProperties** (const **util::Properties** &properties)

  *Sets the **Properties** (p. 2471) this **LogManager** (p. 1941) should use to configure its loggers.*

- const **util::Properties** & **getProperties** () const

  *Gets a reference to the Logging **Properties** (p. 2471) used by this logger.*

- std::string **getProperty** (const std::string &name)

  *Gets the value of a named property of this **LogManager** (p. 1941).*

- void **addPropertyChangeListener** (PropertyChangeListener *listener)

  *Adds a change listener for **LogManager** (p. 1941) **Properties** (p. 2471), adding the same instance of a change event listener does nothing.*

- void **removePropertyChangeListener** (PropertyChangeListener *listener)

  *Removes a properties change listener from the **LogManager** (p. 1941), if the listener is not found of the param is NULL this method returns silently.*

- void **readConfiguration** ()

  *Reinitialize the **logging** (p. 134) properties and reread the **logging** (p. 134) configuration.*

- void **readConfiguration** (**decaf::io::InputStream** *stream)

  *Reinitialize the **logging** (p. 134) properties and reread the **logging** (p. 134) configuration from the given stream, which should be in **decaf.util.Properties** (p. 2471) format.*

- void **reset** ()

  *Reset the **logging** (p. 134) configuration.*

Static Public Member Functions

- static **LogManager** & **getLogManager** ()

  *Get the global **LogManager** (p. 1941) instance.*

Protected Member Functions

- **LogManager** ()

  Constructor, hidden to protect against direct instantiation.

- **LogManager** (const **LogManager** &manager)

  Copy Constructor.

- void **operator=** (const **LogManager** &manager)

  Assignment operator.

Friends

- class **decaf::lang::Runtime**

6.378.1 Detailed Description

There is a single global **LogManager** (p. 1941) object that is used to maintain a set of shared state about Loggers and log services. This **LogManager** (p. 1941) object:

* Manages a hierarchical namespace of **Logger** (p. 1922) objects. All named Loggers are stored in this namespace. * Manages a set of **logging** (p. 134) control properties. These are simple key-value pairs that can be used by Handlers and other **logging** (p. 134) objects to configure themselves.

The global **LogManager** (p. 1941) object can be retrieved using **LogManager::getLogManager()** (p. 1945). The **LogManager** (p. 1941) object is created during class initialization and cannot subsequently be changed.

TODO* By default, the **LogManager** (p. 1941) reads its initial configuration from a properties file "lib/logging.properties" in the JRE directory. If you edit that property file you can change the default **logging** (p. 134) configuration for all uses of that JRE.

In addition, the **LogManager** (p. 1941) uses two optional system properties that allow more control over reading the initial configuration:

* "decaf.logger.config.class" * "decaf.logger.config.file"

These two properties may be set via the Preferences API, or as command line property definitions to the "java" command, or as system property definitions passed to JNI_CreateJavaVM.

If the "java.util.logging.config.class" property is set, then the property value is treated as a class name. The given class will be loaded, an object will be instantiated, and that object's constructor is responsible for reading in the initial configuration. (That object may use other system properties to control its configuration.) The alternate configuration class can use readConfiguration(InputStream) to define properties in the **LogManager** (p. 1941).

If "decaf.util.logging.config.class" property is not set, then the "decaf.util.logging.config.file" system property can be used to specify a properties file (in **decaf.util.Properties** (p. 2471) format). The initial **logging** (p. 134) configuration will be read from this file.

If neither of these properties is defined then, as described above, the **LogManager** (p. 1941) will read its initial configuration from a properties file "lib/logging.properties" in the working directory.

The properties for loggers and Handlers will have names starting with the dot-separated name for the handler or logger. ***TODO****

The global **logging** (p. 134) properties may include:

* A property "handlers". This defines a whitespace separated list of class names for handler classes to load and register as handlers on the root **Logger** (p. 1922) (the **Logger** (p. 1922) named ""). Each class name must be for a **Handler** (p. 1577) class which has a default constructor. Note that these Handlers may be created lazily, when they are first used. * A property "<logger>.handlers". This defines a whitespace or comma separated list of class names for handlers classes to load and register as handlers to the specified logger. Each class name must be for a **Handler** (p. 1577) class which has a default constructor. Note that these Handlers may be created lazily, when they are first used. * A property "<logger>.useParentHandlers". This defines a boolean value. By default every logger calls its parent in addition to handling the **logging** (p. 134) message itself, this often result in messages being handled by the root logger as well. When setting this property to false a **Handler** (p. 1577) needs to be configured for this logger otherwise no **logging** (p. 134) messages are delivered. * A property "config". This property is intended to allow arbitrary configuration **code** (p. 999) to be run. The property defines a whitespace separated list of class names. A new instance will be created for each named class. The default constructor of each class may execute arbitrary **code** (p. 999) to update the **logging** (p. 134) configuration, such as setting logger levels, adding handlers, adding filters, etc.

Loggers are organized into a naming hierarchy based on their dot separated names. Thus "a.b.c" is a child of "a.b", but "a.b1" and a.b2 are peers.

All properties whose names end with ".level" are assumed to define log levels for Loggers. Thus "foo.level" defines a log level for the logger called "foo" and (recursively) for any of its children in the naming hierarchy. Log Levels are applied in the order they are defined in the properties file. Thus level settings for child nodes in the tree should come after settings for their parents. The property name ".level" can be used to set the level for the root of the tree.

All methods on the **LogManager** (p. 1941) object are multi-thread safe.

Since:

1.0

6.378.2 Constructor & Destructor Documentation

6.378.2.1 virtual decaf::util::logging::LogManager::~LogManager () [virtual]

6.378.2.2 decaf::util::logging::LogManager::LogManager () [protected]

Constructor, hidden to protect against direct instantiation.

6.378.2.3 decaf::util::logging::LogManager::LogManager (const LogManager & *manager*) [protected]

Copy Constructor.

Parameters:

manager the Manager to copy

6.378.3 Member Function Documentation

6.378.3.1 bool decaf::util::logging::LogManager::addLogger (Logger * *logger*)

Add a named logger. This does nothing and returns false if a logger with the same name is already registered.

The **Logger** (p. 1922) factory methods call this method to register each newly created **Logger** (p. 1922).

Parameters:

logger The new **Logger** (p. 1922) instance to add to this **LogManager** (p. 1941).

Exceptions:

NullPointerException if logger is NULL.

IllegalArgumentException if the logger has no name.

6.378.3.2 void decaf::util::logging::LogManager::addPropertyChangeListener (PropertyChangeListener * *listener*)

Adds a change listener for **LogManager** (p. 1941) **Properties** (p. 2471), adding the same instance of a change event listener does nothing.

Parameters:

listener The PropertyChangeListener to add (can be NULL).

6.378.3.3 Logger* decaf::util::logging::LogManager::getLogger (const std::string & *name*)

Retrieves or creates a new **Logger** (p. 1922) using the name specified a new logger inherits the configuration of the logger's parent if there is no configuration data for the logger.

Parameters:

name The name of the **Logger** (p. 1922).

6.378.3.4 int decaf::util::logging::LogManager::getLoggerNames (const std::vector< std::string > & *names*)

Gets a list of known **Logger** (p. 1922) Names from this Manager, new loggers added while this method is in progress are not garunteed to be in the list.

Parameters:

names STL Vector to hold string logger names.

Returns:

names count of how many loggers were inserted.

6.378.3.5 static LogManager& decaf::util::logging::LogManager::getLogManager () [static]

Get the global **LogManager** (p. 1941) instance.

Returns:

A reference to the global **LogManager** (p. 1941) instance.

6.378.3.6 const util::Properties& decaf::util::logging::LogManager::getProperties () const [inline]

Gets a reference to the Logging **Properties** (p. 2471) used by this logger.

Returns:

The **Logger** (p. 1922) **Properties** (p. 2471) Pointer

6.378.3.7 std::string decaf::util::logging::LogManager::getProperty (const std::string & *name*)

Gets the value of a named property of this **LogManager** (p. 1941).

Parameters:

name The name of the Property to retrieve.

Returns:

the value of the property

6.378.3.8 void decaf::util::logging::LogManager::operator= (const LogManager & *manager*) [protected]

Assignment operator.

Parameters:

manager the manager to assign from

6.378.3.9 void decaf::util::logging::LogManager::readConfiguration (decaf::io::InputStream * *stream*)

Reinitialize the **logging** (p. 134) properties and reread the **logging** (p. 134) configuration from the given stream, which should be in **decaf.util.Properties** (p. 2471) format. A PropertyChangeEvent will be fired after the properties are read.

Any log level definitions in the new configuration file will be applied using **Logger.setLevel()** (p. 1931), if the target **Logger** (p. 1922) exists.

Parameters:

stream The InputStream to read the **Properties** (p. 2471) from.

Exceptions:

NullPointerException if stream is NULL.

IOException if an I/O error occurs.

6.378.3.10 void decaf::util::logging::LogManager::readConfiguration ()

Reinitialize the **logging** (p. 134) properties and reread the **logging** (p. 134) configuration. The same rules are used for locating the configuration properties as are used at startup. So normally the **logging** (p. 134) properties will be re-read from the same file that was used at startup.

Any log level definitions in the new configuration file will be applied using **Logger.setLevel()** (p. 1931), if the target **Logger** (p. 1922) exists.

A PropertyChangeEvent will be fired after the properties are read.

Exceptions:

IOException if an I/O error occurs.

6.378.3.11 void decaf::util::logging::LogManager::removePropertyChangeListener (PropertyChangeListener * *listener*)

Removes a properties change listener from the **LogManager** (p. 1941), if the listener is not found of the param is NULL this method returns silently.

Parameters:

listener The PropertyChangeListener to remove from the listeners set.

6.378.3.12 void decaf::util::logging::LogManager::reset ()

Reset the **logging** (p. 134) configuration. For all named loggers, the reset operation removes and closes all Handlers and (except for the root logger) sets the level to INHERIT. The root logger's level is set to **Level::INFO** (p. 1850).

6.378.3.13 void decaf::util::logging::LogManager::setProperties (const util::Properties & *properties*)

Sets the **Properties** (p. 2471) this **LogManager** (p. 1941) should use to configure its loggers. Once set a properties change event is fired.

Parameters:

properties Pointer to read the configuration from

6.378.4 Friends And Related Function Documentation

6.378.4.1 friend class decaf::lang::Runtime [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**LogManager.h**

6.379 decaf::util::logging::LogRecord Class Reference

LogRecord (p. 1947) objects are used to pass **logging** (p. 134) requests between the **logging** (p. 134) framework and individual log Handlers.

`#include <src/main/decaf/util/logging/LogRecord.h>`

Public Member Functions

- **LogRecord** ()
- virtual ~**LogRecord** ()
- **Level getLevel** () const

  *Get **Level** (p. 1846) of this log record.*

- void **setLevel** (**Level** value)

  ***Set** (p. 2700) the **Level** (p. 1846) of this Log Record.*

- const std::string & **getLoggerName** () const

  Gets the Source Logger's Name.

- void **setLoggerName** (const std::string &loggerName)

  Sets the Source Logger's Name.

- const std::string & **getSourceFile** () const

  Gets the Source Log File name.

- void **setSourceFile** (const std::string &sourceFile)

  Sets the Source Log File Name.

- unsigned int **getSourceLine** () const

  Gets the Source Log line number.

- void **setSourceLine** (unsigned int sourceLine)

  Sets the Source Log line number.

- const std::string & **getMessage** () const

  Gets the Message to be Logged.

- void **setMessage** (const std::string &message)

  Sets the Message to be Logged.

- const std::string & **getSourceFunction** () const

  Gets the name of the function where this log was logged.

- void **setSourceFunction** (const std::string &functionName)

  Sets the name of the function where this log was logged.

- long long **getTimestamp** () const

  Gets the time in mills that this message was logged.

- void **setTimestamp** (long long timeStamp)
  Sets the time in mills that this message was logged.
- long long **getTreadId** () const
  Gets the Thread Id where this Log was created.
- void **setTreadId** (long long threadId)
  Sets the Thread Id where this Log was created.
- **decaf::lang::Throwable** * **getThrown** () const
  Gets any Throwable associated with this ***LogRecord*** *(p. 1947).*
- void **setThrown** (**decaf::lang::Throwable** *thrown)
  Sets the Throwable associated with this ***LogRecord*** *(p. 1947), the pointer becomes the property of this instance of the* ***LogRecord*** *(p. 1947) and will be deleted when the record is destroyed.*

6.379.1 Detailed Description

LogRecord (p. 1947) objects are used to pass **logging** (p. 134) requests between the **logging** (p. 134) framework and individual log Handlers. When a **LogRecord** (p. 1947) is passed into the **logging** (p. 134) framework it logically belongs to the framework and should no longer be used or updated by the client application.

Since:

1.0

6.379.2 Constructor & Destructor Documentation

6.379.2.1 decaf::util::logging::LogRecord::LogRecord ()

6.379.2.2 virtual decaf::util::logging::LogRecord::~LogRecord () [virtual]

6.379.3 Member Function Documentation

6.379.3.1 Level decaf::util::logging::LogRecord::getLevel () const [inline]

Get **Level** (p. 1846) of this log record.

Returns:

Level (p. 1846) enumeration value.

6.379.3.2 const std::string& decaf::util::logging::LogRecord::getLoggerName () const [inline]

Gets the Source Logger's Name.

Returns:

the source loggers name

6.379.3.3 const std::string& decaf::util::logging::LogRecord::getMessage () const [inline]

Gets the Message to be Logged.

Returns:

the source logger's message

6.379.3.4 const std::string& decaf::util::logging::LogRecord::getSourceFile () const [inline]

Gets the Source Log File name.

Returns:

the source loggers name

6.379.3.5 const std::string& decaf::util::logging::LogRecord::getSourceFunction () const [inline]

Gets the name of the function where this log was logged.

Returns:

the source logger's message

6.379.3.6 unsigned int decaf::util::logging::LogRecord::getSourceLine () const [inline]

Gets the Source Log line number.

Returns:

the source loggers line number

6.379.3.7 decaf::lang::Throwable* decaf::util::logging::LogRecord::getThrown () const [inline]

Gets any Throwable associated with this **LogRecord** (p. 1947).

Returns:

point to a Throwable instance or Null.

6.379.3.8 long long decaf::util::logging::LogRecord::getTimestamp () const [inline]

Gets the time in mills that this message was logged.

Returns:

UTC time in milliseconds

6.379.3.9 long long decaf::util::logging::LogRecord::getTreadId () const [inline]

Gets the Thread Id where this Log was created.

Returns:

the source loggers line number

6.379.3.10 void decaf::util::logging::LogRecord::setLevel (Level *value*) [inline]

Set (p. 2700) the **Level** (p. 1846) of this Log Record.

Parameters:

value **Level** (p. 1846) Enumeration Value

6.379.3.11 void decaf::util::logging::LogRecord::setLoggerName (const std::string & *loggerName*) [inline]

Sets the Source Logger's Name.

Parameters:

loggerName the source loggers name

6.379.3.12 void decaf::util::logging::LogRecord::setMessage (const std::string & *message*) [inline]

Sets the Message to be Logged.

Parameters:

message the source loggers message

6.379.3.13 void decaf::util::logging::LogRecord::setSourceFile (const std::string & *sourceFile*) [inline]

Sets the Source Log File Name.

Parameters:

sourceFile the source loggers name

6.379.3.14 void decaf::util::logging::LogRecord::setSourceFunction (const std::string & *functionName*) [inline]

Sets the name of the function where this log was logged.

Parameters:

functionName the source of the log

6.379.3.15 void decaf::util::logging::LogRecord::setSourceLine (unsigned int *sourceLine*) [inline]

Sets the Source Log line number.

Parameters:

sourceLine the source logger's line number

6.379.3.16 void decaf::util::logging::LogRecord::setThrown (decaf::lang::Throwable * *thrown*) [inline]

Sets the Throwable associated with this **LogRecord** (p. 1947), the pointer becomes the property of this instance of the **LogRecord** (p. 1947) and will be deleted when the record is destroyed.

Parameters:

thrown A pointer to a Throwable that will be associated with this record.

6.379.3.17 void decaf::util::logging::LogRecord::setTimestamp (long long *timeStamp*) [inline]

Sets the time in mills that this message was logged.

Parameters:

timeStamp UTC Time in Milliseconds.

6.379.3.18 void decaf::util::logging::LogRecord::setTreadId (long long *threadId*) [inline]

Sets the Thread Id where this Log was created.

Parameters:

threadId the source logger's line number

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**LogRecord.h**

6.380 decaf::util::logging::LogWriter Class Reference

`#include <src/main/decaf/util/logging/LogWriter.h>`

Public Member Functions

- **LogWriter** ()
- virtual ~**LogWriter** ()
- virtual void **log** (const std::string &file, const int line, const std::string &prefix, const std::string &message)

  Writes a message to the output destination.

- virtual void **log** (const std::string &message)

  Writes a message to the output destination.

Static Public Member Functions

- static **LogWriter** & **getInstance** ()

  Get the singleton instance.

- static void **returnInstance** ()

  Returns a Checked out instance of this Writer.

- static void **destroy** ()

  *Forcefully Delete the Instance of this **LogWriter** (p. 1952) even if there are outstanding references.*

6.380.1 Constructor & Destructor Documentation

6.380.1.1 decaf::util::logging::LogWriter::LogWriter ()

6.380.1.2 virtual decaf::util::logging::LogWriter::~LogWriter () [virtual]

6.380.2 Member Function Documentation

6.380.2.1 static void decaf::util::logging::LogWriter::destroy () [static]

Forcefully Delete the Instance of this **LogWriter** (p. 1952) even if there are outstanding references.

6.380.2.2 static LogWriter& decaf::util::logging::LogWriter::getInstance () [static]

Get the singleton instance.

6.380.2.3 virtual void decaf::util::logging::LogWriter::log (const std::string & *message*) [virtual]

Writes a message to the output destination.

Parameters:

message

6.380.2.4 virtual void decaf::util::logging::LogWriter::log (const std::string & *file*, const int *line*, const std::string & *prefix*, const std::string & *message*) [virtual]

Writes a message to the output destination.

Parameters:

file

line

prefix

message

6.380.2.5 static void decaf::util::logging::LogWriter::returnInstance () [static]

Returns a Checked out instance of this Writer.

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**LogWriter.h**

6.381 decaf::lang::Long Class Reference

`#include <src/main/decaf/lang/Long.h>`Inheritance diagram for decaf::lang::Long:

Public Member Functions

- **Long** (long long value)
- **Long** (const std::string &value)

  *Constructs a new **Long** (p. 1954) and attempts to convert the given string to an long long value, assigning it to the new object is successful or throwing a NumberFormatException if the string is not a properly formatted long long.*

- virtual ~**Long** ()
- virtual int **compareTo** (const **Long** &l) const

  *Compares this **Long** (p. 1954) instance with another.*

- bool **equals** (const **Long** &l) const
- virtual bool **operator==** (const **Long** &l) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const **Long** &l) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- virtual int **compareTo** (const long long &l) const

  *Compares this **Long** (p. 1954) instance with another.*

- bool **equals** (const long long &l) const
- virtual bool **operator==** (const long long &l) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const long long &l) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- std::string **toString** () const
- virtual double **doubleValue** () const

  Answers the double value which the receiver represents.

- virtual float **floatValue** () const

  Answers the float value which the receiver represents.

- virtual unsigned char **byteValue** () const

  Answers the byte value which the receiver represents.

- virtual short **shortValue** () const

  Answers the short value which the receiver represents.

- virtual int **intValue** () const

  Answers the int value which the receiver represents.

- virtual long long **longValue** () const

  Answers the long value which the receiver represents.

Static Public Member Functions

- static int **bitCount** (long long value)

  Returns the number of one-bits in the two's complement binary representation of the specified int value.

- static **Long decode** (const std::string &value)

  *Decodes a **String** (p. 2919) into a **Long** (p. 1954).*

- static long long **highestOneBit** (long long value)

  Returns an long long value with at most a single one-bit, in the position of the highest-order ("leftmost") one-bit in the specified int value.

- static long long **lowestOneBit** (long long value)

  Returns an long long value with at most a single one-bit, in the position of the lowest-order ("rightmost") one-bit in the specified int value.

- static int **numberOfLeadingZeros** (long long value)

  Returns the number of zero bits preceding the highest-order ("leftmost") one-bit in the two's complement binary representation of the specified long long value.

- static int **numberOfTrailingZeros** (long long value)

  Returns the number of zero bits following the lowest-order ("rightmost") one-bit in the two's complement binary representation of the specified long long value.

- static long long **parseLong** (const std::string &value)

  Parses the string argument as a signed decimal long.

- static long long **parseLong** (const std::string &value, int radix)

  *Returns a **Long** (p. 1954) object holding the value extracted from the specified string when parsed with the radix given by the second argument.*

- static long long **reverseBytes** (long long value)

  Returns the value obtained by reversing the order of the bytes in the two's complement representation of the specified long long value.

- static long long **reverse** (long long value)

  Returns the value obtained by reversing the order of the bits in the two's complement binary representation of the specified long long value.

- static long long **rotateLeft** (long long value, int distance)

  Returns the value obtained by rotating the two's complement binary representation of the specified value left by the specified number of bits.

- static long long **rotateRight** (long long value, int distance)

  Returns the value obtained by rotating the two's complement binary representation of the specified value right by the specified number of bits.

- static int **signum** (long long value)

  Returns the signum function of the specified value.

- static std::string **toString** (long long value)

  *Converts the long to a **String** (p. 2919) representation.*

- static std::string **toString** (long long value, int radix)
- static std::string **toHexString** (long long value)

  Returns a string representation of the integer argument as an unsigned integer in base 16.

- static std::string **toOctalString** (long long value)

  Returns a string representation of the long long argument as an unsigned long long in base 8.

- static std::string **toBinaryString** (long long value)

  Returns a string representation of the long long argument as an unsigned long long in base 2.

- static **Long valueOf** (long long value)

  *Returns a **Long** (p. 1954) instance representing the specified int value.*

- static **Long valueOf** (const std::string &value)

  *Returns a **Long** (p. 1954) object holding the value given by the specified std::string.*

- static **Long valueOf** (const std::string &value, int radix)

  *Returns a **Long** (p. 1954) object holding the value extracted from the specified std::string when parsed with the radix given by the second argument.*

Static Public Attributes

- static const int **SIZE**

  The size in bits of the primitive long long type.

- static const long long **MAX_VALUE**

  The maximum value that the primitive type can hold.

- static const long long **MIN_VALUE**

  The minimum value that the primitive type can hold.

6.381.1 Constructor & Destructor Documentation

6.381.1.1 decaf::lang::Long::Long (long long *value*)

Parameters:

value - the primitive long long to wrap

6.381.1.2 decaf::lang::Long::Long (const std::string & *value*)

Constructs a new **Long** (p. 1954) and attempts to convert the given string to an long long value, assigning it to the new object is successful or throwing a NumberFormatException if the string is not a properly formatted long long.

Parameters:

value The string to convert to a primitive type to wrap.

Exceptions:

NumberFormatException if the string is not a a valid 64bit long.

6.381.1.3 virtual decaf::lang::Long::~Long () [inline, virtual]

6.381.2 Member Function Documentation

6.381.2.1 static int decaf::lang::Long::bitCount (long long *value*) [static]

Returns the number of one-bits in the two's complement binary representation of the specified int value. This function is sometimes referred to as the population count.

Parameters:

value - the long long to count

Returns:

the number of one-bits in the two's complement binary representation of the specified long long value.

6.381.2.2 virtual unsigned char decaf::lang::Long::byteValue () const [inline, virtual]

Answers the byte value which the receiver represents.

Returns:

int the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2256).

6.381.2.3 virtual int decaf::lang::Long::compareTo (const long long & *l*) const [virtual]

Compares this **Long** (p. 1954) instance with another.

Parameters:

l - the **Integer** (p. 1725) instance to be compared

Returns:

zero if this object represents the same integer value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object represents a value less than the passed in value.

Implements **decaf::lang::Comparable< long long >** (p. 1031).

6.381.2.4 virtual int decaf::lang::Long::compareTo (const Long & *l*) const [virtual]

Compares this **Long** (p. 1954) instance with another.

Parameters:

l - the **Long** (p. 1954) instance to be compared

Returns:

zero if this object represents the same integer value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object represents a value less than the passed in value.

6.381.2.5 static Long decaf::lang::Long::decode (const std::string & *value*) [static]

Decodes a **String** (p. 2919) into a **Long** (p. 1954). Accepts decimal, hexadecimal, and octal numbers given by the following grammar:

The sequence of characters following an (optional) negative sign and/or radix specifier ("0x", "0X", "#", or leading zero) is parsed as by the Integer.parseInteger method with the indicated radix (10, 16, or 8). This sequence of characters must represent a positive value or a NumberFormatException will be thrown. The result is negated if first character of the specified **String** (p. 2919) is the minus sign. No whitespace characters are permitted in the string.

Parameters:

value - The string to decode

Returns:

a **Long** (p. 1954) object containing the decoded value

Exceptions:

NumberFomatException if the string is not formatted correctly.

6.381.2.6 virtual double decaf::lang::Long::doubleValue () const [inline, virtual]

Answers the double value which the receiver represents.

Returns:

double the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.381.2.7 bool decaf::lang::Long::equals (const long long & *l*) const [inline, virtual]

Parameters:

l - the **Long** (p. 1954) object to compare against.

Returns:

true if the two **Integer** (p. 1725) Objects have the same value.

Implements **decaf::lang::Comparable< long long >** (p. 1032).

6.381.2.8 bool decaf::lang::Long::equals (const Long & *l*) const [inline]

Parameters:

l - the **Long** (p. 1954) object to compare against.

Returns:

true if the two **Integer** (p. 1725) Objects have the same value.

6.381.2.9 virtual float decaf::lang::Long::floatValue () const [inline, virtual]

Answers the float value which the receiver represents.

Returns:

float the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.381.2.10 static long long decaf::lang::Long::highestOneBit (long long *value*) [static]

Returns an long long value with at most a single one-bit, in the position of the highest-order ("leftmost") one-bit in the specified int value. Returns zero if the specified value has no one-bits in its two's complement binary representation, that is, if it is equal to zero.

Parameters:

value - the long long to be inspected

Returns:

an long long value with a single one-bit, in the position of the highest-order one-bit in the specified value, or zero if the specified value is itself equal to zero.

6.381.2.11 virtual int decaf::lang::Long::intValue () const [inline, virtual]

Answers the int value which the receiver represents.

Returns:

int the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.381.2.12 virtual long long decaf::lang::Long::longValue () const [inline, virtual]

Answers the long value which the receiver represents.

Returns:

long the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.381.2.13 static long long decaf::lang::Long::lowestOneBit (long long *value*) [static]

Returns an long long value with at most a single one-bit, in the position of the lowest-order ("rightmost") one-bit in the specified int value. Returns zero if the specified value has no one-bits in its two's complement binary representation, that is, if it is equal to zero.

Parameters:

value - the long long to be inspected

Returns:

an long long value with a single one-bit, in the position of the lowest-order one-bit in the specified value, or zero if the specified value is itself equal to zero.

6.381.2.14 static int decaf::lang::Long::numberOfLeadingZeros (long long *value*) [static]

Returns the number of zero bits preceding the highest-order ("leftmost") one-bit in the two's complement binary representation of the specified long long value. Returns 64 if the specified value has no one-bits in its two's complement representation, in other words if it is equal to zero.

Note that this method is closely related to the logarithm base 2. For all positive int values x:

∗ floor(log2(x)) = 63 - numberOfLeadingZeros(x) ∗ ceil(log2(x)) = 64 - numberOfLeadingZeros(x - 1)

Parameters:

value - the long long to be inspected

Returns:

the number of zero bits preceding the highest-order ("leftmost") one-bit in the two's complement binary representation of the specified long long value, or 64 if the value is equal to zero.

6.381.2.15 static int decaf::lang::Long::numberOfTrailingZeros (long long *value*) [static]

Returns the number of zero bits following the lowest-order ("rightmost") one-bit in the two's complement binary representation of the specified long long value. Returns 64 if the specified value has no one-bits in its two's complement representation, in other words if it is equal to zero.

Parameters:

value - the int to be inspected

Returns:

the number of zero bits following the lowest-order ("rightmost") one-bit in the two's complement binary representation of the specified long long value, or 64 if the value is equal to zero.

6.381.2.16 virtual bool decaf::lang::Long::operator< (const long long & *l*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

l - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< long long >** (p. 1032).

6.381.2.17 virtual bool decaf::lang::Long::operator< (const Long & *l*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

l - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.381.2.18 virtual bool decaf::lang::Long::operator== (const long long & *l*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

l - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< long long >** (p. 1032).

6.381.2.19 virtual bool decaf::lang::Long::operator== (const Long & *l*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

l - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.381.2.20 static long long decaf::lang::Long::parseLong (const std::string & *value*, int *radix*) [static]

Returns a **Long** (p. 1954) object holding the value extracted from the specified string when parsed with the radix given by the second argument. The first argument is interpreted as representing a signed long in the radix specified by the second argument, exactly as if the arguments were given to the parseLong(std::string, int) method. The result is a **Long** (p. 1954) object that represents the long long value specified by the string.

Parameters:

value - **String** (p. 2919) to parse

radix - the base encoding of the string

Returns:

long long value

Exceptions:

NumberFormatException on invalid string value

6.381.2.21 static long long decaf::lang::Long::parseLong (const std::string & *value*) [static]

Parses the string argument as a signed decimal long. The characters in the string must all be decimal digits, except that the first character may be an ASCII minus sign '-' to indicate a negative value. The resulting long value is returned, exactly as if the argument and the radix 10 were given as arguments to the parseLong(java.lang.String, int) method.

Note that the characters LL or ULL are not permitted to appear at the end of this string as would normally be permitted in a C++ program.

Parameters:

value - **String** (p. 2919) to parse

Returns:

long long value

Exceptions:

NumberFormatException on invalid string value

6.381.2.22 static long long decaf::lang::Long::reverse (long long *value*) [static]

Returns the value obtained by reversing the order of the bits in the two's complement binary representation of the specified long long value.

Parameters:

value - the value whose bits are to be reversed

Returns:

the reversed bits long long.

6.381.2.23 static long long decaf::lang::Long::reverseBytes (long long *value*) [static]

Returns the value obtained by reversing the order of the bytes in the two's complement representation of the specified long long value.

Parameters:

value - the long long whose bytes we are to reverse

Returns:

the reversed long long.

6.381.2.24 static long long decaf::lang::Long::rotateLeft (long long *value*, int *distance*) [static]

Returns the value obtained by rotating the two's complement binary representation of the specified value left by the specified number of bits. (Bits shifted out of the left hand, or high-order, side reenter on the right, or low-order.)

Note that left rotation with a negative distance is equivalent to right rotation: rotateLeft(val, -distance) == rotateRight(val, distance). Note also that rotation by any multiple of 32 is a no-op, so all but the last five bits of the rotation distance can be ignored, even if the distance is negative: rotateLeft(val, distance) == rotateLeft(val, distance & 0x1F).

Parameters:

value - the long long to be inspected

distance - the number of bits to rotate

Returns:

the value obtained by rotating the two's complement binary representation of the specified value left by the specified number of bits.

6.381.2.25 static long long decaf::lang::Long::rotateRight (long long *value*, int *distance*) [static]

Returns the value obtained by rotating the two's complement binary representation of the specified value right by the specified number of bits. (Bits shifted out of the right hand, or low-order, side reenter on the left, or high-order.)

Note that right rotation with a negative distance is equivalent to left rotation: rotateRight(val, -distance) == rotateLeft(val, distance). Note also that rotation by any multiple of 32 is a no-op, so all but the last five bits of the rotation distance can be ignored, even if the distance is negative: rotateRight(val, distance) == rotateRight(val, distance & 0x1F).

Parameters:

value - the long long to be inspected

distance - the number of bits to rotate

Returns:

the value obtained by rotating the two's complement binary representation of the specified value right by the specified number of bits.

6.381.2.26 virtual short decaf::lang::Long::shortValue () const [inline, virtual]

Answers the short value which the receiver represents.

Returns:

int the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2258).

6.381.2.27 static int decaf::lang::Long::signum (long long *value*) [static]

Returns the signum function of the specified value. (The return value is -1 if the specified value is negative; 0 if the specified value is zero; and 1 if the specified value is positive.)

Parameters:

value - the long long to be inspected

Returns:

the signum function of the specified long long value.

6.381.2.28 static std::string decaf::lang::Long::toBinaryString (long long *value*) [static]

Returns a string representation of the long long argument as an unsigned long long in base 2. The unsigned long long value is the argument plus 2^32 if the argument is negative; otherwise it is equal to the argument. This value is converted to a string of ASCII digits in binary (base 2) with no extra leading 0s. If the unsigned magnitude is zero, it is represented by a single zero character '0'; otherwise, the first character of the representation of the unsigned magnitude will not be the zero character. The characters '0' and '1' are used as binary digits.

Parameters:

value - the long long to be translated to a binary string

Returns:

the unsigned long long value as a binary string

6.381.2.29 static std::string decaf::lang::Long::toHexString (long long *value*) [static]

Returns a string representation of the integer argument as an unsigned integer in base 16. The unsigned integer value is the argument plus 2^32 if the argument is negative; otherwise, it is equal to the argument. This value is converted to a string of ASCII digits in hexadecimal (base 16) with no extra leading 0s. If the unsigned magnitude is zero, it is represented by a single zero character '0'; otherwise, the first character of the representation of the unsigned magnitude will not be the zero character. The following characters are used as hexadecimal digits:

0123456789abcdef

If uppercase letters are desired, the toUpperCase() method may be called on the result:

Parameters:

value - the long long to be translated to an Octal string

Returns:

the unsigned long long value as a Octal string

6.381.2.30 static std::string decaf::lang::Long::toOctalString (long long *value*) [static]

Returns a string representation of the long long argument as an unsigned long long in base 8. The unsigned long long value is the argument plus 2^32 if the argument is negative; otherwise, it is equal to the argument. This value is converted to a string of ASCII digits in octal (base 8) with no extra leading 0s.

If the unsigned magnitude is zero, it is represented by a single zero character '0'; otherwise, the first character of the representation of the unsigned magnitude will not be the zero character. The following characters are used as octal digits:

01234567

Parameters:

value - the long long to be translated to an Octal string

Returns:

the unsigned long long value as a Octal string

6.381.2.31 static std::string decaf::lang::Long::toString (long long *value*, int *radix*) [static]

6.381.2.32 static std::string decaf::lang::Long::toString (long long *value*) [static]

Converts the long to a **String** (p. 2919) representation.

Parameters:

value The long to convert to a std::string.

Returns:

string representation

6.381.2.33 std::string decaf::lang::Long::toString () const

Returns:

this **Long** (p. 1954) Object as a **String** (p. 2919) Representation

6.381.2.34 static Long decaf::lang::Long::valueOf (const std::string & *value*, int *radix*) [static]

Returns a **Long** (p. 1954) object holding the value extracted from the specified std::string when parsed with the radix given by the second argument. The first argument is interpreted as representing a signed long long in the radix specified by the second argument, exactly as if the argument were given to the parseLong(std::string, int) method. The result is a **Long** (p. 1954) object that represents the long long value specified by the string.

Parameters:

value - std::string to parse as base (radix)

radix - base of the string to parse.

Returns:

new **Long** (p. 1954) Object wrapping the primitive

Exceptions:

NumberFormatException if the string is not a valid long long.

6.381.2.35 static Long decaf::lang::Long::valueOf (const std::string & *value*) [static]

Returns a **Long** (p. 1954) object holding the value given by the specified std::string. The argument is interpreted as representing a signed decimal long long, exactly as if the argument were given to the parseLong(std::string) method. The result is a **Integer** (p. 1725) object that represents the long long value specified by the string.

Parameters:

value - std::string to parse as base 10

Returns:

new **Long** (p. 1954) Object wrapping the primitive

Exceptions:

NumberFormatException if the string is not a decimal long long.

6.381.2.36 static Long decaf::lang::Long::valueOf (long long *value*) [inline, static]

Returns a **Long** (p. 1954) instance representing the specified int value.

Parameters:

value - the long long to wrap

Returns:

the new **Integer** (p. 1725) object wrapping value.

6.381.3 Field Documentation

6.381.3.1 const long long decaf::lang::Long::MAX_VALUE [static]

The maximum value that the primitive type can hold.

6.381.3.2 const long long decaf::lang::Long::MIN_VALUE [static]

The minimum value that the primitive type can hold.

6.381.3.3 const int decaf::lang::Long::SIZE [static]

The size in bits of the primitive long long type.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Long.h**

6.382 decaf::internal::nio::LongArrayBuffer Class Reference

`#include <src/main/decaf/internal/nio/LongArrayBuffer.h>`Inheritance diagram for decaf::internal::nio::LongArrayBuffer:

Public Member Functions

- **LongArrayBuffer** (int size, bool readOnly=false)

  *Creates a **IntArrayBuffer** (p. 1706) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

- **LongArrayBuffer** (long long *array, int size, int offset, int length, bool readOnly=false)

  *Creates a **LongArrayBuffer** (p. 1968) object that wraps the given array.*

- **LongArrayBuffer** (const **decaf::lang::Pointer< ByteArrayAdapter >** &array, int offset, int length, bool readOnly=false)

  Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset.

- **LongArrayBuffer** (const **LongArrayBuffer** &other)

  *Create a **LongArrayBuffer** (p. 1968) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.*

- virtual ~**LongArrayBuffer** ()
- virtual long long * **array** ()

  Returns the long long array that backs this buffer (optional operation).
  Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  *the array that backs this **Buffer** (p. 729).*

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual int **arrayOffset** ()

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  The offset long longo the backing array where index zero starts.

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual LongBuffer * **asReadOnlyBuffer** () const

Creates a new, read-only long long buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.
If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
Returns:

The new, read-only long long buffer which the caller then owns.

- virtual LongBuffer & **compact** ()

Compacts this buffer.
*The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.*
The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.
Returns:

*a reference to this **LongBuffer** (p. 1977).*
Exceptions:

***ReadOnlyBufferException** (p. 2520) if this buffer is read-only.*

- virtual LongBuffer * **duplicate** ()

Creates a new long long buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
The new buffer will be read-only if, and only if, this buffer is read-only.
Returns:

*a new long long **Buffer** (p. 729) which the caller owns.*

- virtual long long **get** ()

Relative get method.
Reads the value at this buffer's current position, and then increments the position.
Returns:

the long long at the current position.
Exceptions:

***BufferUnderflowException** (p. 757) if there no more data to return.*

- virtual long long **get** (int index) const

Absolute get method.
Reads the value at the given index.
Parameters:

***index** The index in the **Buffer** (p. 729) where the long long is to be read.*
Returns:

the long long that is located at the given index.

Exceptions:

IndexOutOfBoundsException *if index is not smaller than the buffer's limit, or index is negative.*

- virtual bool **hasArray** () const

  Tells whether or not this buffer is backed by an accessible long long array.
  If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.
  Returns:

  true if, and only if, this buffer is backed by an array and is not read-only.

- virtual bool **isReadOnly** () const

  Tells whether or not this buffer is read-only.
  Returns:

  true if, and only if, this buffer is read-only.

- virtual LongBuffer & **put** (long long value)

  Writes the given long longs long longo this buffer at the current position, and then increments the position.
  Parameters:

  value *The long longs value to be written.*
  Returns:

  a reference to this buffer.
  Exceptions:

  BufferOverflowException *(p. 754) if this buffer's current position is not smaller than its limit*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only*

- virtual LongBuffer & **put** (int index, long long value)

  Writes the given long longs long longo this buffer at the given index.
  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data*
  value *The long longs to write.*
  Returns:

  a reference to this buffer.
  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only*

- virtual LongBuffer * **slice** () const

  Creates a new ***LongBuffer*** *(p. 1977) whose content is a shared subsequence of this buffer's content.*
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the newly create ***LongBuffer*** *(p. 1977) which the caller owns.*

Protected Member Functions

- virtual void **setReadOnly** (bool value)

  *Sets this **LongArrayBuffer** (p. 1968) as Read-Only.*

6.382.1 Constructor & Destructor Documentation

6.382.1.1 decaf::internal::nio::LongArrayBuffer::LongArrayBuffer (int *size*, bool *readOnly* = `false`)

Creates a **IntArrayBuffer** (p. 1706) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

size The size of the array, this is the limit we read and write to.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

IllegalArguementException if the capacity value is negative.

6.382.1.2 decaf::internal::nio::LongArrayBuffer::LongArrayBuffer (long long * *array*, int *size*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a **LongArrayBuffer** (p. 1968) object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The actual array to wrap.

size The size of the given array.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if offset is greater than array capacity.

6.382.1.3 decaf::internal::nio::LongArrayBuffer::LongArrayBuffer (const decaf::lang::Pointer< ByteArrayAdapter > & *array*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset. The capacity and limit of the new **LongArrayBuffer** (p. 1968) will be that of the remaining capacity of the passed buffer.

Parameters:

array The ByteArrayAdapter to wrap.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if array is NULL

IndexOutOfBoundsException if offset + length is greater than array size.

6.382.1.4 decaf::internal::nio::LongArrayBuffer::LongArrayBuffer (const LongArrayBuffer & *other*)

Create a **LongArrayBuffer** (p. 1968) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.

Parameters:

other The **LongArrayBuffer** (p. 1968) this one is to mirror.

6.382.1.5 virtual decaf::internal::nio::LongArrayBuffer::~LongArrayBuffer () [virtual]

6.382.2 Member Function Documentation

6.382.2.1 virtual long long* decaf::internal::nio::LongArrayBuffer::array () [virtual]

Returns the long long array that backs this buffer (optional operation).

Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::LongBuffer** (p. 1979).

6.382.2.2 virtual int decaf::internal::nio::LongArrayBuffer::arrayOffset () [virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset long longo the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::LongBuffer** (p. 1980).

6.382.2.3 virtual LongBuffer* decaf::internal::nio::LongArrayBuffer::asReadOnlyBuffer () const [virtual]

Creates a new, read-only long long buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only long long buffer which the caller then owns.

Implements **decaf::nio::LongBuffer** (p. 1980).

6.382.2.4 virtual LongBuffer& decaf::internal::nio::LongArrayBuffer::compact () [virtual]

Compacts this buffer.

The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **LongBuffer** (p. 1977).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::LongBuffer** (p. 1980).

6.382.2.5 virtual LongBuffer* decaf::internal::nio::LongArrayBuffer::duplicate () [virtual]

Creates a new long long buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new long long **Buffer** (p. 729) which the caller owns.

Implements **decaf::nio::LongBuffer** (p. 1981).

6.382.2.6 virtual long long decaf::internal::nio::LongArrayBuffer::get (int *index*) const [virtual]

Absolute get method.

Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the long long is to be read.

Returns:

the long long that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implements **decaf::nio::LongBuffer** (p. 1982).

6.382.2.7 virtual long long decaf::internal::nio::LongArrayBuffer::get () [virtual]

Relative get method.

Reads the value at this buffer's current position, and then increments the position.

Returns:

the long long at the current position.

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there no more data to return.

Implements **decaf::nio::LongBuffer** (p. 1983).

6.382.2.8 virtual bool decaf::internal::nio::LongArrayBuffer::hasArray () const [inline, virtual]

Tells whether or not this buffer is backed by an accessible long long array.

If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only.

Implements **decaf::nio::LongBuffer** (p. 1983).

6.382.2.9 virtual bool decaf::internal::nio::LongArrayBuffer::isReadOnly () const [inline, virtual]

Tells whether or not this buffer is read-only.

Returns:

true if, and only if, this buffer is read-only.

Implements **decaf::nio::Buffer** (p. 732).

6.382.2.10 virtual LongBuffer& decaf::internal::nio::LongArrayBuffer::put (int *index*, long long *value*) [virtual]

Writes the given long longs long longo this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data

value The long longs to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written.

ReadOnlyBufferException *(*p. ***2520)*** if this buffer is read-only

Implements **decaf::nio::LongBuffer** (p. 1983).

6.382.2.11 virtual LongBuffer& decaf::internal::nio::LongArrayBuffer::put (long long *value*) [virtual]

Writes the given long longs long longo this buffer at the current position, and then increments the position.

Parameters:

value The long longs value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if this buffer's current position is not smaller than its limit

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

Implements **decaf::nio::LongBuffer** (p. 1984).

6.382.2.12 virtual void decaf::internal::nio::LongArrayBuffer::setReadOnly (bool *value*) [inline, protected, virtual]

Sets this **LongArrayBuffer** (p. 1968) as Read-Only.

Parameters:

value Boolean value, true if this buffer is to be read-only, false otherwise.

6.382.2.13 virtual LongBuffer* decaf::internal::nio::LongArrayBuffer::slice () const [virtual]

Creates a new **LongBuffer** (p. 1977) whose content is a shared subsequence of this buffer's content.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **LongBuffer** (p. 1977) which the caller owns.

Implements **decaf::nio::LongBuffer** (p. 1985).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/nio/**LongArrayBuffer.h**

6.383 decaf::nio::LongBuffer Class Reference

This class defines four categories of operations upon long long buffers:.

`#include <src/main/decaf/nio/LongBuffer.h>`Inheritance diagram for decaf::nio::LongBuffer:

Public Member Functions

- virtual ~**LongBuffer** ()
- virtual std::string **toString** () const
- virtual long long * **array** ()=0

  Returns the long long array that backs this buffer (optional operation).

- virtual int **arrayOffset** ()=0

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

- virtual **LongBuffer** * **asReadOnlyBuffer** () const =0

  Creates a new, read-only long long buffer that shares this buffer's content.

- virtual **LongBuffer** & **compact** ()=0

  Compacts this buffer.

- virtual **LongBuffer** * **duplicate** ()=0

  Creates a new long long buffer that shares this buffer's content.

- virtual long long **get** ()=0

  Relative get method.

- virtual long long **get** (int index) const =0

  Absolute get method.

- **LongBuffer** & **get** (std::vector< long long > buffer)

  Relative bulk get method.

- **LongBuffer** & **get** (long long *buffer, int size, int offset, int length)

  Relative bulk get method.

- virtual bool **hasArray** () const =0

  Tells whether or not this buffer is backed by an accessible long long array.

- **LongBuffer** & **put** (**LongBuffer** &src)

  This method transfers the long longs remaining in the given source buffer long longo this buffer.

- **LongBuffer** & **put** (const long long *buffer, int size, int offset, int length)

  This method transfers long longs long longo this buffer from the given source array.

- **LongBuffer** & **put** (std::vector< long long > &buffer)

  This method transfers the entire content of the given source long longs array long longo this buffer.

- virtual **LongBuffer** & **put** (long long value)=0

  Writes the given long longs long longo this buffer at the current position, and then increments the position.

- virtual **LongBuffer** & **put** (int index, long long value)=0

  Writes the given long longs long longo this buffer at the given index.

- virtual **LongBuffer** * **slice** () const =0

  *Creates a new **LongBuffer** (p. 1977) whose content is a shared subsequence of this buffer's content.*

- virtual int **compareTo** (const **LongBuffer** &value) const

- virtual bool **equals** (const **LongBuffer** &value) const

- virtual bool **operator==** (const **LongBuffer** &value) const

- virtual bool **operator<** (const **LongBuffer** &value) const

Static Public Member Functions

- static **LongBuffer** * **allocate** (int capacity)

  Allocates a new Double buffer.

- static **LongBuffer** * **wrap** (long long *array, int size, int offset, int length)

  *Wraps the passed buffer with a new **LongBuffer** (p. 1977).*

- static **LongBuffer** * **wrap** (std::vector< long long > &buffer)

  *Wraps the passed STL long long Vector in a **LongBuffer** (p. 1977).*

Protected Member Functions

- **LongBuffer** (int capacity)

  *Creates a **LongBuffer** (p. 1977) object that has its backing array allocated long longernally and is then owned and deleted when this object is deleted.*

6.383.1 Detailed Description

This class defines four categories of operations upon long long buffers:. o Absolute and relative get and put methods that read and write single long longs; o Relative bulk get methods that transfer contiguous sequences of long longs from this buffer long longo an array; and o Relative bulk put methods that transfer contiguous sequences of long longs from a long long array or some other long long buffer long longo this buffer o Methods for compacting, duplicating, and slicing a long long buffer.

Double buffers can be created either by allocation, which allocates space for the buffer's content, by wrapping an existing long long array long longo a buffer, or by creating a view of an existing byte buffer

Methods in this class that do not otherwise have a value to return are specified to return the buffer upon which they are invoked. This allows method invocations to be chained.

6.383.2 Constructor & Destructor Documentation

6.383.2.1 decaf::nio::LongBuffer::LongBuffer (int *capacity*) [protected]

Creates a **LongBuffer** (p. 1977) object that has its backing array allocated long longernally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

capacity The size and limit of the **Buffer** (p. 729) in long longs.

Exceptions:

IllegalArguementException if capacity is negative.

6.383.2.2 virtual decaf::nio::LongBuffer::~LongBuffer () [inline, virtual]

6.383.3 Member Function Documentation

6.383.3.1 static LongBuffer* decaf::nio::LongBuffer::allocate (int *capacity*) [static]

Allocates a new Double buffer. The new buffer's position will be zero, its limit will be its capacity, and its mark will be undefined. It will have a backing array, and its array offset will be zero.

Parameters:

capacity The size of the Double buffer in long longs.

Returns:

the **LongBuffer** (p. 1977) that was allocated, caller owns.

6.383.3.2 virtual long long* decaf::nio::LongBuffer::array () [pure virtual]

Returns the long long array that backs this buffer (optional operation). Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1972).

6.383.3.3 virtual int decaf::nio::LongBuffer::arrayOffset () [pure virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation). Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset long longo the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1973).

6.383.3.4 virtual LongBuffer* decaf::nio::LongBuffer::asReadOnlyBuffer () const [pure virtual]

Creates a new, read-only long long buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only long long buffer which the caller then owns.

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1973).

6.383.3.5 virtual LongBuffer& decaf::nio::LongBuffer::compact () [pure virtual]

Compacts this buffer. The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied

to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **LongBuffer** (p. 1977).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1973).

6.383.3.6 virtual int decaf::nio::LongBuffer::compareTo (const LongBuffer & *value*) const [virtual]

6.383.3.7 virtual LongBuffer* decaf::nio::LongBuffer::duplicate () [pure virtual]

Creates a new long long buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new long long **Buffer** (p. 729) which the caller owns.

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1974).

6.383.3.8 virtual bool decaf::nio::LongBuffer::equals (const LongBuffer & *value*) const [virtual]

6.383.3.9 LongBuffer& decaf::nio::LongBuffer::get (long long * *buffer*, int *size*, int *offset*, int *length*)

Relative bulk get method. This method transfers long longs from this buffer long longo the given destination array. If there are fewer long longs remaining in the buffer than are required to satisfy the request, that is, if length > **remaining()** (p. 734), then no bytes are transferred and a **BufferUnderflowException** (p. 757) is thrown.

Otherwise, this method copies length long longs from this buffer long longo the given array, starting at the current position of this buffer and at the given offset in the array. The position of this buffer is then incremented by length.

Parameters:

buffer The pointer to an allocated long long buffer to fill.

size The size of the passed in buffer.

offset The position in the buffer to start filling.

length The amount of data to put in the passed buffer.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there are fewer than length long longs remaining in this buffer

NullPolong longerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.383.3.10 LongBuffer& decaf::nio::LongBuffer::get (std::vector< long long > *buffer*)

Relative bulk get method. This method transfers values from this buffer long longo the given destination vector. An invocation of this method of the form src.get(a) behaves in exactly the same way as the invocation. The vector must be sized to the amount of data that is to be read, that is to say, the caller should call buffer.resize(N) before calling this get method.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there are fewer than length long longs remaining in this buffer.

6.383.3.11 virtual long long decaf::nio::LongBuffer::get (int *index*) const [pure virtual]

Absolute get method. Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the long long is to be read.

Returns:

the long long that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or index is negative.

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1974).

6.383.3.12 virtual long long decaf::nio::LongBuffer::get () [pure virtual]

Relative get method. Reads the value at this buffer's current position, and then increments the position.

Returns:

the long long at the current position.

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there no more data to return.

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1974).

6.383.3.13 virtual bool decaf::nio::LongBuffer::hasArray () const [pure virtual]

Tells whether or not this buffer is backed by an accessible long long array. If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only.

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1975).

6.383.3.14 virtual bool decaf::nio::LongBuffer::operator< (const LongBuffer & *value*) const [virtual]

6.383.3.15 virtual bool decaf::nio::LongBuffer::operator== (const LongBuffer & *value*) const [virtual]

6.383.3.16 virtual LongBuffer& decaf::nio::LongBuffer::put (int *index*, long long *value*) [pure virtual]

Writes the given long longs long longo this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data

value The long longs to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written.

ReadOnlyBufferException *(*p. ***2520)*** if this buffer is read-only

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1975).

6.383.3.17 virtual LongBuffer& decaf::nio::LongBuffer::put (long long *value*) [pure virtual]

Writes the given long longs long longo this buffer at the current position, and then increments the position.

Parameters:

value The long longs value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. *754)* if this buffer's current position is not smaller than its limit

ReadOnlyBufferException *(*p. *2520)* if this buffer is read-only

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1976).

6.383.3.18 LongBuffer& decaf::nio::LongBuffer::put (std::vector< long long > & *buffer*)

This method transfers the entire content of the given source long longs array long longo this buffer. This is the same as calling put(&buffer[0], 0, buffer.size().

Parameters:

buffer The buffer whose contents are copied to this **LongBuffer** (p. 1977).

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. *754)* if there is insufficient space in this buffer.

ReadOnlyBufferException *(*p. *2520)* if this buffer is read-only.

6.383.3.19 LongBuffer& decaf::nio::LongBuffer::put (const long long * *buffer*, int *size*, int *offset*, int *length*)

This method transfers long longs long longo this buffer from the given source array. If there are more long longs to be copied from the array than remain in this buffer, that is, if length > **remaining()** (p. 734), then no long longs are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies length bytes from the given array long longo this buffer, starting at the given offset in the array and at the current position of this buffer. The position of this buffer is then incremented by length.

Parameters:

buffer The array from which long longs are to be read.

size The size of the buffer passed.

offset The offset within the array of the first char to be read.

length The number of long longs to be read from the given array.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. ***754****)* if there is insufficient space in this buffer

ReadOnlyBufferException *(*p. ***2520****)* if this buffer is read-only

NullPolong longerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.383.3.20 LongBuffer& decaf::nio::LongBuffer::put (LongBuffer & *src*)

This method transfers the long longs remaining in the given source buffer long longo this buffer. If there are more long longs remaining in the source buffer than in this buffer, that is, if src.remaining() > **remaining()** (p. 734), then no long longs are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies n = src.remaining() long longs from the given buffer long longo this buffer, starting at each buffer's current position. The positions of both buffers are then incremented by n.

Parameters:

src The buffer to take long longs from an place in this one.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. ***754****)* if there is insufficient space in this buffer for the remaining long longs in the source buffer

IllegalArgumentException if the source buffer is this buffer

ReadOnlyBufferException *(*p. ***2520****)* if this buffer is read-only

6.383.3.21 virtual LongBuffer* decaf::nio::LongBuffer::slice () const [pure virtual]

Creates a new **LongBuffer** (p. 1977) whose content is a shared subsequence of this buffer's content. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **LongBuffer** (p. 1977) which the caller owns.

Implemented in **decaf::internal::nio::LongArrayBuffer** (p. 1976).

6.383.3.22 virtual std::string decaf::nio::LongBuffer::toString () const [virtual]

Returns:

a std::string describing this object

6.383.3.23 static LongBuffer* decaf::nio::LongBuffer::wrap (std::vector< long long > & *buffer*) [static]

Wraps the passed STL long long Vector in a **LongBuffer** (p. 1977). The new buffer will be backed by the given long long array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new **LongBuffer** (p. 1977) that is backed by buffer, caller owns.

6.383.3.24 static LongBuffer* decaf::nio::LongBuffer::wrap (long long * *array*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new **LongBuffer** (p. 1977). The new buffer will be backed by the given long long array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

array The array that will back the new buffer.

size The size of the passed in array.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new **LongBuffer** (p. 1977) that is backed by buffer, caller owns.

Exceptions:

NullPointerException if the array pointer is NULL.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**LongBuffer.h**

6.384 activemq::util::LongSequenceGenerator Class Reference

This class is used to generate a sequence of long long values that are incremented each time a new value is requested.

`#include <src/main/activemq/util/LongSequenceGenerator.h>`

Public Member Functions

- **LongSequenceGenerator** ()
- virtual ~**LongSequenceGenerator** ()
- long long **getNextSequenceId** ()
- long long **getLastSequenceId** ()

6.384.1 Detailed Description

This class is used to generate a sequence of long long values that are incremented each time a new value is requested. This class is thread safe so the ids can be requested in different **threads** (p. 71) safely.

6.384.2 Constructor & Destructor Documentation

6.384.2.1 activemq::util::LongSequenceGenerator::LongSequenceGenerator ()

6.384.2.2 virtual activemq::util::LongSequenceGenerator::~LongSequenceGenerator () [virtual]

6.384.3 Member Function Documentation

6.384.3.1 long long activemq::util::LongSequenceGenerator::getLastSequenceId ()

Returns:

the last id that was generated.

6.384.3.2 long long activemq::util::LongSequenceGenerator::getNextSequenceId ()

Returns:

the next id in the sequence.

The documentation for this class was generated from the following file:

- src/main/activemq/util/**LongSequenceGenerator.h**

6.385 decaf::util::LRUCache< K, V, HASHCODE > Class Template Reference

A Basic Least Recently Used (LRU) Cache **Map** (p. 1995).

`#include <src/main/decaf/util/LRUCache.h>`Inheritance diagram for decaf::util::LRUCache< K, V, HASHCODE >:

Public Member Functions

- **LRUCache** ()

  Default constructor for an LRU Cache The default capacity is 10000.

- **LRUCache** (int maximumCacheSize)

  *Constructs a **LRUCache** (p. 1989) with a maximum capacity.*

- **LRUCache** (int initialCapacity, int maximumCacheSize, float **loadFactor**, bool accessOrder)

  *Constructs an empty **LRUCache** (p. 1989) instance with the specified initial capacity, maximumCacheSize, load factor and ordering mode.*

- virtual ~**LRUCache** ()
- int **getMaxCacheSize** () const

  Gets the currently configured Max Cache Size setting.

- void **setMaxCacheSize** (int size)

  Sets the maximum size allowed for this LRU Cache.

Protected Member Functions

- virtual bool **removeEldestEntry** (const **MapEntry**< K, V > &eldest DECAF_UNUSED)

Protected Attributes

- int **maxCacheSize**

6.385.1 Detailed Description

template<typename K, typename V, typename HASHCODE = HashCode<K>> class decaf::util::LRUCache< K, V, HASHCODE >

A Basic Least Recently Used (LRU) Cache **Map** (p. 1995). This **LRUCache** (p. 1989) implements the **LinkedHashMap** (p. 1862) class so all the standard **Map** (p. 1995) operations are provided. When the sive of this **LRUCache** (p. 1989) map exceeds the specified maxCacheSize value then by default the oldest entry is evicted from the Cache.

Subclasses can override the LinkedHashMap::onEviction method to perform custom cache eviction processing.

Since:

1.0

6.385.2 Constructor & Destructor Documentation

6.385.2.1 template<typename K , typename V , typename HASHCODE = HashCode<K>> decaf::util::LRUCache< K, V, HASHCODE >::LRUCache () [inline]

Default constructor for an LRU Cache The default capacity is 10000.

6.385.2.2 template<typename K , typename V , typename HASHCODE = HashCode<K>> decaf::util::LRUCache< K, V, HASHCODE >::LRUCache (int *maximumCacheSize*) [inline]

Constructs a **LRUCache** (p. 1989) with a maximum capacity.

Parameters:

maximumCacheSize The maximum number of cached entries before eviction begins.

6.385.2.3 template<typename K , typename V , typename HASHCODE = HashCode<K>> decaf::util::LRUCache< K, V, HASHCODE >::LRUCache (int *initialCapacity*, int *maximumCacheSize*, float *loadFactor*, bool *accessOrder*) [inline]

Constructs an empty **LRUCache** (p. 1989) instance with the specified initial capacity, maximumCacheSize, load factor and ordering mode.

Parameters:

initialCapacity The initial capacity of the **LRUCache** (p. 1989).

maximumCacheSize The maximum number of cached entries before eviction begins.

loadFactor the load factor. The initial load factor for this **LRUCache** (p. 1989).

accessOrder The ordering mode - true for access-order, false for insertion-order.

Exceptions:

IllegalArgumentException if the initial capacity is negative or the load factor is non-positive.

6.385.2.4 template<typename K , typename V , typename HASHCODE = HashCode<K>> virtual decaf::util::LRUCache< K, V, HASHCODE >::~LRUCache () [inline, virtual]

6.385.3 Member Function Documentation

6.385.3.1 template<typename K , typename V , typename HASHCODE = HashCode<K>> int decaf::util::LRUCache< K, V, HASHCODE >::getMaxCacheSize () const [inline]

Gets the currently configured Max Cache Size setting.

Returns:

the current max cache size value.

References decaf::util::LRUCache< K, V, HASHCODE >::maxCacheSize.

6.385.3.2 template<typename K , typename V , typename HASHCODE = HashCode<K>> virtual bool decaf::util::LRUCache< K, V, HASHCODE >::removeEldestEntry (const MapEntry< K, V > &eldest *DECAF_UNUSED*) [inline, protected, virtual]

References decaf::util::LRUCache< K, V, HASHCODE >::maxCacheSize, and decaf::util::HashMap< K, V, HASHCODE >::size().

6.385.3.3 template<typename K , typename V , typename HASHCODE = HashCode<K>> void decaf::util::LRUCache< K, V, HASHCODE >::setMaxCacheSize (int *size*) [inline]

Sets the maximum size allowed for this LRU Cache.

Parameters:

size The new maximum cache size setting.

Exceptions:

IllegalArgumentException is size is less than or equal to zero.

References decaf::util::LRUCache< K, V, HASHCODE >::maxCacheSize.

6.385.4 Field Documentation

6.385.4.1 template<typename K , typename V , typename HASHCODE = HashCode<K>> int decaf::util::LRUCache< K, V, HASHCODE >::maxCacheSize [protected]

Referenced by decaf::util::LRUCache< K, V, HASHCODE >::getMaxCacheSize(), decaf::util::LRUCache< K, V, HASHCODE >::removeEldestEntry(), and decaf::util::LRUCache< K, V, HASHCODE >::setMaxCacheSize().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**LRUCache.h**

6.386 decaf::net::MalformedURLException Class Reference

`#include <src/main/decaf/net/MalformedURLException.h>`Inheritance diagram for decaf::net::MalformedURLException:

Public Member Functions

- **MalformedURLException** ()

  Default Constructor.

- **MalformedURLException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **MalformedURLException** (const **MalformedURLException** &ex)

  Copy Constructor.

- **MalformedURLException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **MalformedURLException** (const std::exception *cause)

  Constructor.

- **MalformedURLException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **MalformedURLException** * **clone** () const

  Clones this exception.

- virtual ~**MalformedURLException** () throw ()

6.386.1 Constructor & Destructor Documentation

6.386.1.1 decaf::net::MalformedURLException::MalformedURLException ()

Default Constructor.

6.386.1.2 decaf::net::MalformedURLException::MalformedURLException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.386.1.3 decaf::net::MalformedURLException::MalformedURLException (const MalformedURLException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.386.1.4 decaf::net::MalformedURLException::MalformedURLException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.386.1.5 decaf::net::MalformedURLException::MalformedURLException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.386.1.6 decaf::net::MalformedURLException::MalformedURLException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.386.1.7 virtual decaf::net::MalformedURLException::~MalformedURLException () throw () [virtual]

6.386.2 Member Function Documentation

6.386.2.1 virtual MalformedURLException* decaf::net::MalformedURLException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::io::IOException** (p. 1775).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**MalformedURLException.h**

6.387 decaf::util::Map< K, V > Class Template Reference

An object that maps keys to values.

`#include <src/main/decaf/util/Map.h>`Inheritance diagram for decaf::util::Map< K, V >:

Public Member Functions

- **Map** ()

  Default constructor - does nothing.

- virtual ~**Map** ()
- virtual bool **equals** (const **Map** &source) const =0

  Compares the specified object with this map for equality.

- virtual void **copy** (const **Map** &source)=0

  Copies the content of the source map into this map.

- virtual void **clear** ()=0

  Removes all of the mappings from this map (optional operation).

- virtual bool **containsKey** (const K &key) const =0

  Returns true if this map contains a mapping for the specified key.

- virtual bool **containsValue** (const V &value) const =0

  Returns true if this map maps one or more keys to the specified value.

- virtual bool **isEmpty** () const =0
- virtual int **size** () const =0
- virtual V & **get** (const K &key)=0

  *Gets the value mapped to the specified key in the **Map** (p. 1995).*

- virtual const V & **get** (const K &key) const =0

  *Gets the value mapped to the specified key in the **Map** (p. 1995).*

- virtual bool **put** (const K &key, const V &value)=0

  Associates the specified value with the specified key in this map (optional operation).

- virtual bool **put** (const K &key, const V &value, V &oldValue)=0

  Associates the specified value with the specified key in this map (optional operation).

- virtual void **putAll** (const **Map**< K, V > &other)=0

  Copies all of the mappings from the specified map to this map (optional operation).

- virtual V **remove** (const K &key)=0

  Removes the value (key/value pair) for the specified key from the map, returns a copy of the value that was mapped to the key.

- virtual **Set**< **MapEntry**< K, V > > & **entrySet** ()=0

  *Returns a **Set** (p. 2700) view of the mappings contained in this map.*

- virtual const **Set**< **MapEntry**< K, V > > & **entrySet** () const =0
- virtual **Set**< K > & **keySet** ()=0

  *Returns a **Set** (p. 2700) view of the keys contained in this map.*

- virtual const **Set**< K > & **keySet** () const =0
- virtual **Collection**< V > & **values** ()=0

  *Returns a **Collection** (p. 1000) view of the values contained in this map.*

- virtual const **Collection**< V > & **values** () const =0

6.387.1 Detailed Description

template<typename K, typename V> class decaf::util::Map< K, V >

An object that maps keys to values. A map cannot contain duplicate keys; each key can map to at most one value.

The **Map** (p. 1995) interface provides three collection views, which allow a map's contents to be viewed as a set of keys, collection of values, or set of key-value mappings. The order of a map is defined as the order in which the iterators on the map's collection views return their elements. Some map implementations, like the TreeMap class, make specific guarantees as to their order; others, like the **HashMap** (p. 1600) class, do not.

Note: great care must be exercised if mutable objects are used as map keys. The behavior of a map is not specified if the value of an object is changed in a manner that affects equals comparisons while the object is a key in the map. A special case of this prohibition is that it is not permissible for a map to contain itself as a key. While it is permissible for a map to contain itself as a value, extreme caution is advised: the equals and hashCode methods are no longer well defined on such a map.

All general-purpose map implementation classes should provide two "standard" constructors: a void (no arguments) constructor which creates an empty map, and a constructor with a single argument of type **Map** (p. 1995), which creates a new map with the same key-value mappings as its argument. In effect, the latter constructor allows the user to copy any map, producing an equivalent map of the desired class.

The "destructive" methods contained in this interface, that is, the methods that modify the map on which they operate, are specified to throw UnsupportedOperationException if this map does not support the operation. If this is the case, these methods may, but are not required to, throw an UnsupportedOperationException if the invocation would have no effect on the map. For example, invoking the putAll(Map) method on an unmodifiable map may, but is not required to, throw the exception if the map whose mappings are to be "superimposed" is empty.

Some map implementations have restrictions on the keys and values they may contain. For example, some implementations prohibit NULL keys and values, and some have restrictions on the types of their keys. Attempting to insert an ineligible key or value throws an exception, typically NullPointerException or ClassCastException. Attempting to query the presence of an ineligible key or value may throw an exception, or it may simply return false; some implementations will exhibit the former behavior and some will exhibit the latter. More generally, attempting an operation on an ineligible key or value whose completion would not result in the insertion of an ineligible element into the map may throw an exception or it may succeed, at the option of the implementation. Such exceptions are marked as "optional" in the specification for this interface.

Many methods in **Collections** (p. 1012) Framework interfaces are defined in terms of the equals method. For example, the specification for the containsKey(Object key) method says: "returns true if and only if this map contains a mapping for a key k such that (key == k)." This specification should not be construed to imply that invoking **Map.containsKey** (p. 1998) with a non-null argument key will cause (key == k) to be invoked for any key k. Implementations are free to implement optimizations whereby the equals invocation is avoided, for example, by first comparing the hash codes of the two keys. (The Object.hashCode() specification guarantees that two objects with unequal hash codes cannot be equal.) More generally, implementations of the various **Collections** (p. 1012) Framework interfaces are free to take advantage of the specified behavior of underlying Object methods wherever the implementor deems it appropriate.

Since:

1.0

6.387.2 Constructor & Destructor Documentation

6.387.2.1 template<typename K, typename V> decaf::util::Map< K, V >::Map () [inline]

Default constructor - does nothing.

6.387.2.2 template<typename K, typename V> virtual decaf::util::Map< K, V >::~Map () [inline, virtual]

6.387.3 Member Function Documentation

6.387.3.1 template<typename K, typename V> virtual void decaf::util::Map< K, V >::clear () [pure virtual]

Removes all of the mappings from this map (optional operation). The map will be empty after this call returns.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this map.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1058), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1604), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2858), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1058), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1058), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1058), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1058), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1604), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2858), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2858), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2858), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2858), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2858), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2858), **decaf::util::StlMap< std::string, TransportFactory * >**

(p. 2858), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2858), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2858), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2858).

6.387.3.2 template<typename K, typename V> virtual bool decaf::util::Map< K, V >::containsKey (const K & *key*) const [pure virtual]

Returns true if this map contains a mapping for the specified key. More formally, returns true if and only if this map contains a mapping for a key k such that (key == k). (There can be at most one such mapping.)

Parameters:

key The key to look up.

Returns:

true if this map contains the key mapping, otherwise false.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1058), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1605), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2858), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1605), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2858), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2858), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2858), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2858), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2858), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2858), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2858), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2858), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2858), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2858).

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::equals().

6.387.3.3 template<typename K, typename V> virtual bool decaf::util::Map< K, V >::containsValue (const V & *value*) const [pure virtual]

Returns true if this map maps one or more keys to the specified value. More formally, returns true if and only if this map contains at least one mapping to a value v such that (value==v). This operation will probably require time linear in the map size for most implementations of the **Map** (p. 1995) interface.

Parameters:

value The Value to look up in this **Map** (p. 1995).

Returns:

true if this map contains at least one mapping for the value, otherwise false.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1059), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1605), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2859), **decaf::util::HashMap< E, Set< E > *,**

HASHCODE > (p. 1605), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2859), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2859), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2859), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2859), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2859), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2859), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2859), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2859), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2859), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2859).

6.387.3.4 template<typename K, typename V> virtual void decaf::util::Map< K, V >::copy (const Map< K, V > & *source*) [pure virtual]

Copies the content of the source map into this map. Erases all existing mappings in this map. The copy is performed by using the entrySet of the source **Map** (p. 1995) and iterating over those entries, inserting each into the target.

Parameters:

source The source object to copy from.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1059), and **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2859).

6.387.3.5 template<typename K, typename V> virtual const Set< MapEntry<K,V> >& decaf::util::Map< K, V >::entrySet () const [pure virtual]

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1060), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1606), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2859), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1060), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1060), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1060), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1060), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1606), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2859), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2859), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2859), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2859), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2859), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2859), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2859), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2859), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2859), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2859).

6.387.3.6 template<typename K, typename V> virtual Set< MapEntry<K,V> >& decaf::util::Map< K, V >::entrySet () [pure virtual]

Returns a **Set** (p. 2700) view of the mappings contained in this map. The set is backed by the map, so changes to the map are reflected in the set, and vice-versa. If the map is modified while an iteration over the set is in progress (except through the iterator's own remove operation, or through the setValue operation on a map entry returned by the iterator) the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Set.remove** (p. 1007), removeAll, retainAll and clear operations. It does not support the add or addAll operations.

Returns:

a reference to a **Set** (p. 2700)<MapEntry<K,V>> that is backed by this **Map** (p. 1995).

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1060), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1606), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2859), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1060), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1060), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1060), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1060), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1606), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2859), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2859), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2859), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2859), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2859), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2859), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2859), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2859), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2859), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2859).

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAllImpl().

6.387.3.7 template<typename K, typename V> virtual bool decaf::util::Map< K, V >::equals (const Map< K, V > & *source*) const [pure virtual]

Compares the specified object with this map for equality. Returns true if the two maps represent the same mappings. More formally, two maps m1 and m2 represent the same mappings if m1.entrySet().equals(m2.entrySet()). This ensures that the equals method works properly across different implementations of the **Map** (p. 1995) interface.

Parameters:

source **Map** (p. 1995) to compare to this one.

Returns:

true if the **Map** (p. 1995) passed is equal in value to this one.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1060), and **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2860).

6.387.3.8 template<typename K, typename V> virtual const V& decaf::util::Map< K, V >::get (const K & *key*) const [pure virtual]

Gets the value mapped to the specified key in the **Map** (p. 1995). If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.

Parameters:

key The search key whose value should be returned if present.

Returns:

A const reference to the value for the given key if present in the **Map** (p. 1995).

Exceptions:

NoSuchElementException *(p. 2247)* if the key requests doesn't exist in the **Map** (p. 1995).

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1061), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1607), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2860), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1607), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2860), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2860), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2860), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2860), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2860), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2860), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2860), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2860), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2860), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2860).

6.387.3.9 template<typename K, typename V> virtual V& decaf::util::Map< K, V >::get (const K & *key*) [pure virtual]

Gets the value mapped to the specified key in the **Map** (p. 1995). If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.

Parameters:

key The search key whose value should be returned if present.

Returns:

A reference to the value for the given key if present in the **Map** (p. 1995).

Exceptions:

NoSuchElementException *(p. 2247)* if the key requests doesn't exist in the **Map** (p. 1995).

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1061), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1607), **decaf::util::StlMap<**

K, V, COMPARATOR > (p. 2861), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1607), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2861), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2861), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2861), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2861), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2861), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2861), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2861), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2861), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2861), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2861).

Referenced by decaf::util::StlMap< std::string, cms::Topic * >::equals(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::equals(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::equals(), decaf::util::StlMap< std::string, cms::Topic * >::putAll(), and decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::putAll().

6.387.3.10 template<typename K, typename V> virtual bool decaf::util::Map< K, V >::isEmpty () const [pure virtual]

Returns:

if the **Map** (p. 1995) contains any element or not, TRUE or FALSE

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1062), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1608), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2861), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1062), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1608), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2861), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2861), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2861), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2861), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2861), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2861), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2861), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2861), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2861), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2861).

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAll().

6.387.3.11 template<typename K, typename V> virtual const Set<K>& decaf::util::Map< K, V >::keySet () const [pure virtual]

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1062), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1608), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2861), **decaf::util::concurrent::ConcurrentStlMap<**

Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR > (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1062), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1608), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2861), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2861), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2861), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2861), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2861), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2861), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2861), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2861), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2861), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2861).

6.387.3.12 template<typename K, typename V> virtual Set<K>& decaf::util::Map< K, V >::keySet () [pure virtual]

Returns a **Set** (p. 2700) view of the keys contained in this map. The set is backed by the map, so changes to the map are reflected in the set, and vice-versa. If the map is modified while an iteration over the set is in progress (except through the iterator's own remove operation), the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Set.remove** (p. 1007), removeAll, retainAll, and clear operations. It does not support the add or addAll operations.

Returns:

a set view of the keys contained in this map,

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1062), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1608), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2861), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1062), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1608), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2861), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2861), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2861), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2861), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2861), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2861), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2861), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2861), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2861), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2861).

Referenced by decaf::util::StlMap< std::string, cms::Topic * >::putAll(), and decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::putAll().

6.387.3.13 template<typename K, typename V> virtual bool decaf::util::Map< K, V >::put (const K & *key*, const V & *value*, V & *oldValue*) [pure virtual]

Associates the specified value with the specified key in this map (optional operation). If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

This method accepts a reference to a value which will be assigned the previous value for the given key (if any). If there was no previous mapping for the given key the out value is not written to. A return of true indicates that a value was replaced by this put operation.

Parameters:

key The target key.

value The value to be set.

oldValue (out) The value previously held in the mapping for this key. .

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException if this map is unmodifiable.

IllegalArgumentException if some property of the specified key or value prevents it from being stored in this map

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1063), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1609), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2863), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1609), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2863), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2863), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2863), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2863), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2863), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2863), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2863), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2863), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2863), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2863).

6.387.3.14 template<typename K, typename V> virtual bool decaf::util::Map< K, V >::put (const K & *key*, const V & *value*) [pure virtual]

Associates the specified value with the specified key in this map (optional operation). If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

Parameters:

key The target key.

value The value to be set.

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException if this map is unmodifiable.

IllegalArgumentException if some property of the specified key or value prevents it from being stored in this map

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1064), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1609), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2863), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1609), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2863), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2863), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2863), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2863), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2863), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2863), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2863), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2863), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2863), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2863).

6.387.3.15 template<typename K, typename V> virtual void decaf::util::Map< K, V >::putAll (const Map< K, V > & *other*) [pure virtual]

Copies all of the mappings from the specified map to this map (optional operation). The effect of this call is equivalent to that of calling put(k, v) on this map once for each mapping from key k to value v in the specified map. The behavior of this operation is undefined if the specified map is modified while the operation is in progress.

Parameters:

other A **Map** (p. 1995) instance whose elements are to all be inserted in this **Map** (p. 1995).

Exceptions:

UnsupportedOperationException If the implementing class does not support the putAll operation.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1064), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2864), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1610), and **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2864).

6.387.3.16 template<typename K, typename V> virtual V decaf::util::Map< K, V >::remove (const K & *key*) [pure virtual]

Removes the value (key/value pair) for the specified key from the map, returns a copy of the value that was mapped to the key. Care must be taken when using this operation as it will throw an exception if there is no mapping for the given key.

Parameters:

key The search key whose mapping is to be removed.

Returns:

a copy of the element that was previously mapped to the given key.

Exceptions:

NoSuchElementException *(p. 2247)* if this key is not in the **Map** (p. 1995).

UnsupportedOperationException if this map is unmodifiable.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1066), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1611), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2864), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1611), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2864), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2864), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2864), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2864), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2864), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2864), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2864), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2864), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2864), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2864).

6.387.3.17 template<typename K, typename V> virtual int decaf::util::Map< K, V >::size () const [pure virtual]

Returns:

The number of elements (key/value pairs) in this map.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1068), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1611), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2865), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1068), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1611), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2865), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2865), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2865), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2865),

decaf::util::StlMap< std::string, cms::Queue * > (p. 2865), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2865), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2865), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2865), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2865), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2865).

Referenced by decaf::util::HashMap< E, Set< E > *, HASHCODE >::copy(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::equals(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::HashMap(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAllImpl().

6.387.3.18 template<typename K, typename V> virtual const Collection<V>& decaf::util::Map< K, V >::values () const [pure virtual]

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1068), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1612), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2865), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1068), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1612), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2865), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2865), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2865), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2865), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2865), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2865), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2865), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2865), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2865), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2865).

6.387.3.19 template<typename K, typename V> virtual Collection<V>& decaf::util::Map< K, V >::values () [pure virtual]

Returns a **Collection** (p. 1000) view of the values contained in this map. The collection is backed by the map, so changes to the map are reflected in the collection, and vice-versa. If the map is modified while an iteration over the collection is in progress (except through the iterator's own remove operation), the results of the iteration are undefined. The collection supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Collection.remove** (p. 1007), removeAll, retainAll and clear operations. It does not support the add or addAll operations. For the const version of this method the **Collection** (p. 1000) can only be used as a view into the **Map** (p. 1995).

Returns:

a collection view of the values contained in this map.

Implemented in **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1069), **decaf::util::HashMap< K, V, HASHCODE >** (p. 1612), **decaf::util::StlMap<**

K, V, COMPARATOR > (p. 2866), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1069), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1069), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1069), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1069), **decaf::util::HashMap< E, Set< E > *, HASHCODE >** (p. 1612), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2866), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2866), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2866), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2866), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2866), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2866), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2866), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2866), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2866), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2866).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Map.h**

6.388 decaf::util::MapEntry< K, V > Class Template Reference

`#include <src/main/decaf/util/MapEntry.h>`Inheritance diagram for decaf::util::MapEntry< K, V >:

Public Member Functions

- **MapEntry** ()
- **MapEntry** (const **MapEntry** &other)
- **MapEntry** (const K &key, const V &value)
- **MapEntry** & **operator**= (const **MapEntry** &other)
- virtual ~**MapEntry** ()
- virtual void **setKey** (K key)
- virtual K & **getKey** ()
- virtual const K & **getKey** () const
- virtual void **setValue** (const V &value)
- virtual V & **getValue** ()
- virtual const V & **getValue** () const
- virtual bool **equals** (const **MapEntry**< K, V > &entry) const
- virtual bool **operator**== (const **MapEntry**< K, V > &other) const

template<typename K, typename V> class decaf::util::MapEntry< K, V >

6.388.1 Constructor & Destructor Documentation

6.388.1.1 template<typename K, typename V> decaf::util::MapEntry< K, V >::MapEntry () [inline]

6.388.1.2 template<typename K, typename V> decaf::util::MapEntry< K, V >::MapEntry (const MapEntry< K, V > & *other*) [inline]

6.388.1.3 template<typename K, typename V> decaf::util::MapEntry< K, V >::MapEntry (const K & *key*, const V & *value*) [inline]

6.388.1.4 template<typename K, typename V> virtual decaf::util::MapEntry< K, V >::~MapEntry () [inline, virtual]

6.388.2 Member Function Documentation

6.388.2.1 template<typename K, typename V> virtual bool decaf::util::MapEntry< K, V >::equals (const MapEntry< K, V > & *entry*) const [inline, virtual]

References decaf::util::MapEntry< K, V >::getKey(), and decaf::util::MapEntry< K, V >::getValue().

Referenced by decaf::util::MapEntry< K, V >::operator==().

6.388.2.2 template<typename K, typename V> virtual const K& decaf::util::MapEntry< K, V >::getKey () const [inline, virtual]

6.388.2.3 template<typename K, typename V> virtual K& decaf::util::MapEntry< K, V >::getKey () [inline, virtual]

Referenced by decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::contains(), decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::contains(), decaf::util::MapEntry< K, V >::equals(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::equals(), decaf::util::MapEntry< K, V >::operator=(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAllImpl().

6.388.2.4 template<typename K, typename V> virtual const V& decaf::util::MapEntry< K, V >::getValue () const [inline, virtual]

6.388.2.5 template<typename K, typename V> virtual V& decaf::util::MapEntry< K, V >::getValue () [inline, virtual]

Referenced by decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::contains(), decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::contains(), decaf::util::MapEntry< K, V >::equals(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::equals(), decaf::util::MapEntry< K, V >::operator=(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putAllImpl(), and decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::remove().

6.388.2.6 template<typename K, typename V> MapEntry& decaf::util::MapEntry< K, V >::operator= (const MapEntry< K, V > & *other*) [inline]

References decaf::util::MapEntry< K, V >::getKey(), and decaf::util::MapEntry< K, V >::getValue().

6.388.2.7 template<typename K, typename V> virtual bool decaf::util::MapEntry< K, V >::operator== (const MapEntry< K, V > & *other*) const [inline, virtual]

References decaf::util::MapEntry< K, V >::equals().

6.388.2.8 template<typename K, typename V> virtual void decaf::util::MapEntry< K, V >::setKey (K *key*) [inline, virtual]

Referenced by decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry::HashMapEntry().

6.388.2.9 template<typename K, typename V> virtual void decaf::util::MapEntry< K, V >::setValue (const V & *value*) [inline, virtual]

Referenced by decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry::HashMapEntry().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**MapEntry.h**

6.389 cms::MapMessage Class Reference

A **MapMessage** (p. 2011) object is used to send a set of name-value pairs.

`#include <src/main/cms/MapMessage.h>`Inheritance diagram for cms::MapMessage:

Public Member Functions

- virtual ~**MapMessage** ()
- virtual bool **isEmpty** () const =0

  *Returns true if there are no values stored in the **MapMessage** (p. 2011) body.*

- virtual std::vector< std::string > **getMapNames** () const =0

  *Returns an Enumeration of all the names in the **MapMessage** (p. 2011) object.*

- virtual bool **itemExists** (const std::string &name) const =0

  *Indicates whether an item exists in this **MapMessage** (p. 2011) object.*

- virtual **ValueType getValueType** (const std::string &key) const =0

  Returns the value type for the given key mapping.

- virtual bool **getBoolean** (const std::string &name) const =0

  Returns the Boolean value of the Specified name.

- virtual void **setBoolean** (const std::string &name, bool value)=0

  Sets a boolean value with the specified name into the Map.

- virtual unsigned char **getByte** (const std::string &name) const =0

  Returns the Byte value of the Specified name.

- virtual void **setByte** (const std::string &name, unsigned char value)=0

  Sets a Byte value with the specified name into the Map.

- virtual std::vector< unsigned char > **getBytes** (const std::string &name) const =0

  Returns the Bytes value of the Specified name.

- virtual void **setBytes** (const std::string &name, const std::vector< unsigned char > &value)=0

  Sets a Bytes value with the specified name into the Map.

- virtual char **getChar** (const std::string &name) const =0

  Returns the Char value of the Specified name.

- virtual void **setChar** (const std::string &name, char value)=0

  Sets a Char value with the specified name into the Map.

- virtual double **getDouble** (const std::string &name) const =0

  Returns the Double value of the Specified name.

- virtual void **setDouble** (const std::string &name, double value)=0
  Sets a Double value with the specified name into the Map.
- virtual float **getFloat** (const std::string &name) const =0
  Returns the Float value of the Specified name.
- virtual void **setFloat** (const std::string &name, float value)=0
  Sets a Float value with the specified name into the Map.
- virtual int **getInt** (const std::string &name) const =0
  Returns the Int value of the Specified name.
- virtual void **setInt** (const std::string &name, int value)=0
  Sets a Int value with the specified name into the Map.
- virtual long long **getLong** (const std::string &name) const =0
  Returns the Long value of the Specified name.
- virtual void **setLong** (const std::string &name, long long value)=0
  Sets a Long value with the specified name into the Map.
- virtual short **getShort** (const std::string &name) const =0
  Returns the Short value of the Specified name.
- virtual void **setShort** (const std::string &name, short value)=0
  Sets a Short value with the specified name into the Map.
- virtual std::string **getString** (const std::string &name) const =0
  Returns the String value of the Specified name.
- virtual void **setString** (const std::string &name, const std::string &value)=0
  Sets a String value with the specified name into the Map.

6.389.1 Detailed Description

A **MapMessage** (p. 2011) object is used to send a set of name-value pairs. The names are String objects, and the values are primitive data types in the Java programming language. The names must have a value that is not null, and not an empty string. The entries can be accessed sequentially or randomly by name. The order of the entries is undefined. **MapMessage** (p. 2011) inherits from the **Message** (p. 2077) interface and adds a message body that contains a Map.

When a client receives a **MapMessage** (p. 2011), it is in read-only mode. If a client attempts to write to the message at this point, a **MessageNotWriteableException** (p. 2177) is thrown. To place the **MapMessage** (p. 2011) back into a state where it can be read from and written to, call the `clearBody` method.

MapMessage (p. 2011) objects support the following conversion table. The marked cases must be supported. The unmarked cases must throw a **CMSException** (p. 973). The String-to-primitive conversions may throw a **MessageFormatException** (p. 2159) if the primitive's valueOf() method does not accept it as a valid String representation of the primitive.

A value written as the row type can be read as the column type.

	boolean	byte	short	char	int	long	float	double	String	byte[]
boolean	X								X	
byte		X	X		X	X			X	
short			X		X	X			X	
char				X					X	
int					X	X			X	
long						X			X	
float							X	X	X	
double								X	X	
String	X	X	X		X	X	X	X	X	
byte[]										X

Since:

1.0

6.389.2 Constructor & Destructor Documentation

6.389.2.1 virtual cms::MapMessage::~MapMessage () [virtual]

6.389.3 Member Function Documentation

6.389.3.1 virtual bool cms::MapMessage::getBoolean (const std::string & *name*) const [pure virtual]

Returns the Boolean value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 345).

6.389.3.2 virtual unsigned char cms::MapMessage::getByte (const std::string & *name*) const [pure virtual]

Returns the Byte value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException *(*p. *2159)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 345).

6.389.3.3 virtual std::vector<unsigned char> cms::MapMessage::getBytes (const std::string & *name*) const [pure virtual]

Returns the Bytes value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException *(*p. *973)* - if the operation fails due to an internal error.

MessageFormatException *(*p. *2159)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 345).

6.389.3.4 virtual char cms::MapMessage::getChar (const std::string & *name*) const [pure virtual]

Returns the Char value of the Specified name.

Parameters:

name name of the value to fetch from the map

Exceptions:

CMSException *(*p. *973)* - if the operation fails due to an internal error.

MessageFormatException *(*p. *2159)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 346).

6.389.3.5 virtual double cms::MapMessage::getDouble (const std::string & *name*) const [pure virtual]

Returns the Double value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException *(*p. *973)* - if the operation fails due to an internal error.

MessageFormatException *(*p. *2159)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 346).

6.389.3.6 virtual float cms::MapMessage::getFloat (const std::string & *name*) const [pure virtual]

Returns the Float value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 347).

6.389.3.7 virtual int cms::MapMessage::getInt (const std::string & *name*) const [pure virtual]

Returns the Int value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 347).

6.389.3.8 virtual long long cms::MapMessage::getLong (const std::string & *name*) const [pure virtual]

Returns the Long value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 347).

6.389.3.9 virtual std::vector<std::string> cms::MapMessage::getMapNames () const [pure virtual]

Returns an Enumeration of all the names in the **MapMessage** (p. 2011) object.

Returns:

STL Vector of String values, each of which is the name of an item in the **MapMessage** (p. 2011)

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 348).

6.389.3.10 virtual short cms::MapMessage::getShort (const std::string & *name*) const [pure virtual]

Returns the Short value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageFormatException *(p. 2159)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 348).

6.389.3.11 virtual std::string cms::MapMessage::getString (const std::string & *name*) const [pure virtual]

Returns the String value of the Specified name.

Parameters:

name Name of the value to fetch from the map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageFormatException *(p. 2159)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 349).

6.389.3.12 virtual ValueType cms::MapMessage::getValueType (const std::string & *key*) const [pure virtual]

Returns the value type for the given key mapping. The CMS provider should translate all internal type identifiers into the CMS Value types returning UNKNOWN_TYPE for any specialized types not directly supported in the CMS API.

Parameters:

key The string key used to look up the value type mapping.

Returns:

The ValueType contained in the given mapping.

Exceptions:

CMSException *(*p. ***973****)* if no mapping exists that matches the requested key.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 349).

6.389.3.13 virtual bool cms::MapMessage::isEmpty () const [pure virtual]

Returns true if there are no values stored in the **MapMessage** (p. 2011) body.

Returns:

true if the body of the **MapMessage** (p. 2011) contains no elements.

Exceptions:

CMSException *(*p. ***973****)* if the operation fails due to an internal error.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 349).

6.389.3.14 virtual bool cms::MapMessage::itemExists (const std::string & *name*) const [pure virtual]

Indicates whether an item exists in this **MapMessage** (p. 2011) object.

Parameters:

name String name of the Object in question

Returns:

boolean value indicating if the name is in the map

Exceptions:

CMSException *(*p. ***973****)* - if the operation fails due to an internal error.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 350).

6.389.3.15 virtual void cms::MapMessage::setBoolean (const std::string & *name*, bool *value*) [pure virtual]

Sets a boolean value with the specified name into the Map.

Parameters:

name the name of the boolean

value the boolean value to set in the Map

Exceptions:

CMSException *(*p. ***973****)* - if the operation fails due to an internal error.

MessageNotWritableException - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 350).

6.389.3.16 virtual void cms::MapMessage::setByte (const std::string & *name*, unsigned char *value*) [pure virtual]

Sets a Byte value with the specified name into the Map.

Parameters:

name the name of the Byte

value the Byte value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 350).

6.389.3.17 virtual void cms::MapMessage::setBytes (const std::string & *name*, const std::vector< unsigned char > & *value*) [pure virtual]

Sets a Bytes value with the specified name into the Map.

Parameters:

name The name of the Bytes

value The Bytes value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 351).

6.389.3.18 virtual void cms::MapMessage::setChar (const std::string & *name*, char *value*) [pure virtual]

Sets a Char value with the specified name into the Map.

Parameters:

name the name of the Char

value the Char value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 351).

6.389.3.19 virtual void cms::MapMessage::setDouble (const std::string & *name*, double *value*) [pure virtual]

Sets a Double value with the specified name into the Map.

Parameters:

name The name of the Double

value The Double value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 351).

6.389.3.20 virtual void cms::MapMessage::setFloat (const std::string & *name*, float *value*) [pure virtual]

Sets a Float value with the specified name into the Map.

Parameters:

name The name of the Float

value The Float value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 352).

6.389.3.21 virtual void cms::MapMessage::setInt (const std::string & *name*, int *value*) [pure virtual]

Sets a Int value with the specified name into the Map.

Parameters:

name The name of the Int

value The Int value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 352).

6.389.3.22 virtual void cms::MapMessage::setLong (const std::string & *name*, long long *value*) [pure virtual]

Sets a Long value with the specified name into the Map.

Parameters:

name The name of the Long

value The Long value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 352).

6.389.3.23 virtual void cms::MapMessage::setShort (const std::string & *name*, short *value*) [pure virtual]

Sets a Short value with the specified name into the Map.

Parameters:

name The name of the Short

value The Short value to set in the Map

Exceptions:

CMSException *(p. 973)* - if the operation fails due to an internal error.

MessageNotWriteableException *(p. 2177)* - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 353).

6.389.3.24 virtual void cms::MapMessage::setString (const std::string & *name*, const std::string & *value*) [pure virtual]

Sets a String value with the specified name into the Map.

Parameters:

name The name of the String

value The String value to set in the Map

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageNotWriteableException (p. ***2177***) - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 353).

The documentation for this class was generated from the following file:

- src/main/cms/**MapMessage.h**

6.390 decaf::util::logging::MarkBlockLogger Class Reference

Defines a class that can be used to mark the entry and exit from scoped blocks.

`#include <src/main/decaf/util/logging/MarkBlockLogger.h>`

Public Member Functions

- **MarkBlockLogger** (**Logger** *logger, const std::string &blockName)
  Constructor - Marks Block entry.
- virtual ~**MarkBlockLogger** ()

6.390.1 Detailed Description

Defines a class that can be used to mark the entry and exit from scoped blocks. Create an instance of this class at the start of a scoped block, passing it the logger to use and the name of the block. The block entry and exit will be marked using the scope name, logger to the logger at the MARKBLOCK log level.

6.390.2 Constructor & Destructor Documentation

6.390.2.1 decaf::util::logging::MarkBlockLogger::MarkBlockLogger (Logger * *logger*, const std::string & *blockName*) [inline]

Constructor - Marks Block entry.

Parameters:

logger **Logger** (p. 1922) to use

blockName Block name

6.390.2.2 virtual decaf::util::logging::MarkBlockLogger::~MarkBlockLogger () [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**MarkBlockLogger.h**

6.391 activemq::wireformat::MarshalAware Class Reference

`#include <src/main/activemq/wireformat/MarshalAware.h>`Inheritance diagram for activemq::wireformat::MarshalAware:

Public Member Functions

- virtual ~**MarshalAware** ()
- virtual bool **isMarshalAware** () const =0

  Determine if the class implementing this interface is really wanting to be told about marshaling.

- virtual void **beforeMarshal** (**WireFormat** *wireFormat)=0

  Called before marshaling is started to prepare the object to be marshaled.

- virtual void **afterMarshal** (**WireFormat** *wireFormat)=0

  Called after marshaling is started to cleanup the object being marshaled.

- virtual void **beforeUnmarshal** (**WireFormat** *wireFormat)=0

  Called before unmarshaling is started to prepare the object to be unmarshaled.

- virtual void **afterUnmarshal** (**WireFormat** *wireFormat)=0

  Called after unmarshaling is started to cleanup the object being unmarshaled.

- virtual void **setMarshaledForm** (**WireFormat** *wireFormat, const std::vector< char > &data)=0

  Called to set the data to this object that will contain the objects marshaled form.

- virtual std::vector< unsigned char > **getMarshaledForm** (**WireFormat** *wireFormat)=0

  Called to get the data to this object that will contain the objects marshaled form.

6.391.1 Constructor & Destructor Documentation

6.391.1.1 virtual activemq::wireformat::MarshalAware::~MarshalAware () [virtual]

6.391.2 Member Function Documentation

6.391.2.1 virtual void activemq::wireformat::MarshalAware::afterMarshal (WireFormat * *wireFormat*) [pure virtual]

Called after marshaling is started to cleanup the object being marshaled.

Parameters:

wireFormat The **wireformat** (p. 81) object to control marshaling

Exceptions:

IOException if an I/O error occurs.

6.391.2.2 virtual void activemq::wireformat::MarshalAware::afterUnmarshal (WireFormat * *wireFormat*) [pure virtual]

Called after unmarshaling is started to cleanup the object being unmarshaled.

Parameters:

wireFormat The **wireformat** (p. 81) object to control marshaling

Exceptions:

IOException if an I/O error occurs.

6.391.2.3 virtual void activemq::wireformat::MarshalAware::beforeMarshal (WireFormat * *wireFormat*) [pure virtual]

Called before marshaling is started to prepare the object to be marshaled.

Parameters:

wireFormat The **wireformat** (p. 81) object to control marshaling

Exceptions:

IOException if an I/O error occurs.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 343), and **activemq::commands::ActiveMQTextMessage** (p. 513).

6.391.2.4 virtual void activemq::wireformat::MarshalAware::beforeUnmarshal (WireFormat * *wireFormat*) [pure virtual]

Called before unmarshaling is started to prepare the object to be unmarshaled.

Parameters:

wireFormat The **wireformat** (p. 81) object to control marshaling

Exceptions:

IOException if an I/O error occurs.

6.391.2.5 virtual std::vector<unsigned char> activemq::wireformat::MarshalAware::getMarshaledForm (WireFormat * *wireFormat*) [pure virtual]

Called to get the data to this object that will contain the objects marshaled form.

Parameters:

wireFormat The **wireformat** (p. 81) object to control unmarshaling

Returns:

buffer that holds the objects data.

6.391.2.6 virtual bool activemq::wireformat::MarshalAware::isMarshalAware () const [pure virtual]

Determine if the class implementing this interface is really wanting to be told about marshaling. Normally if you didn't want to be marshal aware you just wouldn't implement this interface but since this is C++ and we don't have true interfaces we need a flat inheritance hierarchy, so we always implement this.

Returns:

true if this class cares about marshaling.

Implemented in **activemq::commands::ActiveMQMapMessage** (p. 350), **activemq::commands::BaseDataStructure** (p. 664), **activemq::commands::Message** (p. 2069), and **activemq::commands::WireFormatInfo** (p. 3222).

6.391.2.7 virtual void activemq::wireformat::MarshalAware::setMarshaledForm (WireFormat * *wireFormat*, const std::vector< char > & *data*) [pure virtual]

Called to set the data to this object that will contain the objects marshaled form.

Parameters:

wireFormat - the **wireformat** (p. 81) object to control unmarshaling

data - vector of object binary data

wireFormat The **wireformat** (p. 81) object to control marshaling

data A vector of bytes that contains the object in marshaled form.

Exceptions:

IOException if an I/O error occurs.

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/**MarshalAware.h**

6.392 activemq::wireformat::openwire::marshal::generated::MarshallerFa Class Reference

Used to create marshallers for a specific version of the wire protocol.

`#include <src/main/activemq/wireformat/openwire/marshal/generated/MarshallerFactory.h>`

Public Member Functions

- virtual ~**MarshallerFactory** ()
- virtual void **configure** (**OpenWireFormat** *format)

6.392.1 Detailed Description

Used to create marshallers for a specific version of the wire protocol. NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Groovy scripts in the activemq-openwire-generator module

6.392.2 Constructor & Destructor Documentation

6.392.2.1 virtual activemq::wireformat::openwire::marshal::generated::MarshallerFactory::~MarshallerFacto () `[inline, virtual]`

6.392.3 Member Function Documentation

6.392.3.1 virtual void activemq::wireformat::openwire::marshal::generated::MarshallerFactory::configure (OpenWireFormat * *format*) `[virtual]`

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**MarshallerFactory.h**

6.393 activemq::util::MarshallingSupport Class Reference

`#include <src/main/activemq/util/MarshallingSupport.h>`

Public Member Functions

- **MarshallingSupport** ()
- virtual ~**MarshallingSupport** ()

Static Public Member Functions

- static void **writeString** (**decaf::io::DataOutputStream** &dataOut, const std::string &value)

  Write the string object to the given DataOutputStream as Raw bytes, no string encoding is done on this char values in the string.

- static void **writeString16** (**decaf::io::DataOutputStream** &dataOut, const std::string &value)

  Write the string object to the given DataOutputStream as Raw bytes, no string encoding is done on this char values in the string.

- static void **writeString32** (**decaf::io::DataOutputStream** &dataOut, const std::string &value)

  Write the string object to the given DataOutputStream as Raw bytes, no string encoding is done on this char values in the string.

- static std::string **readString16** (**decaf::io::DataInputStream** &dataIn)

  Reads an Openwire encoded string from the provided DataInputStream.

- static std::string **readString32** (**decaf::io::DataInputStream** &dataIn)

  Reads an Openwire encoded string from the provided DataInputStream.

- static std::string **asciiToModifiedUtf8** (const std::string &asciiString)

  Given an ASCII String with byte values [0..255] convert the string to a string containing the modified UTF-8 form of that same string.

- static std::string **modifiedUtf8ToAscii** (const std::string modifiedUtf8String)

  Given a string that contains bytes in the Java Modified UTF-8 format convert that string back into ASCII values from [0..255].

6.393.1 Constructor & Destructor Documentation

6.393.1.1 activemq::util::MarshallingSupport::MarshallingSupport ()

6.393.1.2 virtual activemq::util::MarshallingSupport::~MarshallingSupport () [virtual]

6.393.2 Member Function Documentation

6.393.2.1 static std::string activemq::util::MarshallingSupport::asciiToModifiedUtf8 (const std::string & *asciiString*) [static]

Given an ASCII String with byte values [0..255] convert the string to a string containing the modified UTF-8 form of that same string. This allows an ASCII string containing values greater than 127 as well as embedded NULLs to be sent to a Java client.

Parameters:

asciiString The ASCII string to encode as Modified UTF-8

Returns:

a string containing the Modified UTF-8 encoded form of the provided string.

Exceptions:

UTFDataFormatException if the length of the encoded string would exceed the size of an signed integer.

6.393.2.2 static std::string activemq::util::MarshallingSupport::modifiedUtf8ToAscii (const std::string *modifiedUtf8String*) [static]

Given a string that contains bytes in the Java Modified UTF-8 format convert that string back into ASCII values from [0..255]. This will handle any string sent from a Java client which contains values within the [0..255] range or has embedded Nulls. Strings that have encoded values greater than 255 will cause an exception to be thrown.

Parameters:

modifiedUtf8String The string to convert from Modified UTF-8 to ASCII.

Returns:

the ASCII encoded version of the provided string.

Exceptions:

UTFDataFormatException if the provided string contains invalid data or the character values encoded in the string exceed ASCII value 255.

6.393.2.3 static std::string activemq::util::MarshallingSupport::readString16 (decaf::io::DataInputStream & *dataIn*) [static]

Reads an Openwire encoded string from the provided DataInputStream. No string processing is performed by this method, clients that know the data contains UTF-8 encoded content must use one of the utility methods of this class to decode the UTF-8 data.

This version assumes a size prefix of 16bits.

Parameters:

dataIn The DataInputStream to read the String data from.

Returns:

the String value.

Exceptions:

IOException if an I/O error occurs while writing the string.

6.393.2.4 static std::string activemq::util::MarshallingSupport::readString32 (decaf::io::DataInputStream & *dataIn*) [static]

Reads an Openwire encoded string from the provided DataInputStream. No string processing is performed by this method, clients that know the data contains UTF-8 encoded content must use one of the utility methods of this class to decode the UTF-8 data.

This version assumes a size prefix of 32bits.

Parameters:

dataIn The DataInputStream to read the String data from.

Returns:

the String value.

Exceptions:

IOException if an I/O error occurs while writing the string.

6.393.2.5 static void activemq::util::MarshallingSupport::writeString (decaf::io::DataOutputStream & *dataOut*, const std::string & *value*) [static]

Write the string object to the given DataOutputStream as Raw bytes, no string encoding is done on this char values in the string. User must encode to Modified UTF-8 as needed.

Parameters:

dataOut The DataOutputStream to write the String data to.

value Thre String value to write in Openwire form.

Exceptions:

IOException if an I/O error occurs while writing the string.

6.393.2.6 static void activemq::util::MarshallingSupport::writeString16 (decaf::io::DataOutputStream & *dataOut*, const std::string & *value*) [static]

Write the string object to the given DataOutputStream as Raw bytes, no string encoding is done on this char values in the string. User must encode to Modified UTF-8 as needed. This method write out only the size as a short and the string data no Openwire Type tag is appended.

Parameters:

dataOut The DataOutputStream to write the String data to.

value Thre String value to write in Openwire form.

Exceptions:

IOException if an I/O error occurs while writing the string.

6.393.2.7 static void activemq::util::MarshallingSupport::writeString32 (decaf::io::DataOutputStream & *dataOut*, const std::string & *value*) [static]

Write the string object to the given DataOutputStream as Raw bytes, no string encoding is done on this char values in the string. User must encode to Modified UTF-8 as needed. This method write out only the size as a int and the string data no Openwire Type tag is appended.

Parameters:

dataOut The DataOutputStream to write the String data to.

value Thre String value to write in Openwire form.

Exceptions:

IOException if an I/O error occurs while writing the string.

The documentation for this class was generated from the following file:

- src/main/activemq/util/**MarshallingSupport.h**

6.394 decaf::lang::Math Class Reference

The class `Math` (p. 2030) contains methods for performing basic numeric operations such as the elementary exponential, logarithm, square root, and trigonometric functions.

`#include <src/main/decaf/lang/Math.h>`

Public Member Functions

- **Math** ()
- virtual ~**Math** ()

Static Public Member Functions

- static int **abs** (int value)

  Returns the absolute value of an int value.

- static long long **abs** (long long value)

  Returns the absolute value of an long long value.

- static float **abs** (float value)

  Returns the absolute value of a float value.

- static double **abs** (double value)

  Returns the absolute value of a double value.

- static double **sqrt** (double value)

  Returns the arc cosine of an angle, in the range of 0.0 through pi.

- static double **pow** (double base, double exp)

  Returns the value of the first argument raised to the power of the second argument.

- static short **min** (short a, short b)

  Returns the double value that is closest in value to the argument and is equal to a mathematical integer.

- static int **min** (int a, int b)

  Returns the smaller of two `int` values.

- static unsigned int **min** (unsigned int a, unsigned int b)

  Returns the smaller of two `unsigned int` values.

- static long long **min** (long long a, long long b)

  Returns the smaller of two `long long` values.

- static float **min** (float a, float b)

  Returns the smaller of two float values.

- static double **min** (double a, double b)

  Returns the smaller of two double values.

- static short **max** (short a, short b)

  Returns the larger of two `short` *values.*

- static int **max** (int a, int b)

  Returns the larger of two `int` *values.*

- static long long **max** (long long a, long long b)

  Returns the larger of two `long long` *values.*

- static float **max** (float a, float b)

  Returns the greater of two float values.

- static double **max** (double a, double b)

  Returns the greater of two double values.

- static double **ceil** (double value)

  Returns the natural logarithm (base e) of a double value.

- static double **floor** (double value)

  Returns the largest (closest to positive infinity) double value that is less than or equal to the argument and is equal to a mathematical integer.

- static int **round** (float value)

  Returns the closest int to the argument.

- static long long **round** (double value)

  Returns the closest long long to the argument.

- static double **random** ()

  Computes the remainder operation on two arguments as prescribed by the IEEE 754 standard.

- static float **signum** (float value)

  Returns Euler's number e raised to the power of a double value.

- static double **signum** (double value)

  Returns the signum function of the argument; zero if the argument is zero, 1.0f if the argument is greater than zero, -1.0f if the argument is less than zero.

- static double **toRadians** (double angdeg)

  Returns the measure in radians of the supplied degree angle.

- static double **toDegrees** (double angrad)

  Returns the measure in degrees of the supplied radian angle.

Static Public Attributes

- static const double **E**
- static const double **PI**

6.394.1 Detailed Description

The class `Math` (p. 2030) contains methods for performing basic numeric operations such as the elementary exponential, logarithm, square root, and trigonometric functions.

6.394.2 Constructor & Destructor Documentation

6.394.2.1 decaf::lang::Math::Math () [inline]

6.394.2.2 virtual decaf::lang::Math::~Math () [inline, virtual]

6.394.3 Member Function Documentation

6.394.3.1 static double decaf::lang::Math::abs (double *value*) [static]

Returns the absolute value of a double value. If the argument is not negative, the argument is returned. If the argument is negative, the negation of the argument is returned. Special cases:

o If the argument is positive zero or negative zero, the result is positive zero. o If the argument is infinite, the result is positive infinity. o If the argument is NaN, the result is NaN.

In other words, the result is the same as the value of the expression: **Double::longBitsToDouble** (p. 1408)(0x7fffffffffffffffULL & Double::doubleToLongBits(value))

Parameters:

value - the value to return the abs of

Returns:

the value if positive, otherwise the negative of value

6.394.3.2 static float decaf::lang::Math::abs (float *value*) [static]

Returns the absolute value of a float value. If the argument is not negative, the argument is returned. If the argument is negative, the negation of the argument is returned. Special cases:

o If the argument is positive zero or negative zero, the result is positive zero. o If the argument is infinite, the result is positive infinity. o If the argument is NaN, the result is NaN.

In other words, the result is the same as the value of the expression: **Float::intBitsToFloat** (p. 1523)(0x7fffffff & Float::floatToIntBits(value))

Parameters:

value - the value to return the abs of

Returns:

the value if positive, otherwise the negative of value

6.394.3.3 static long long decaf::lang::Math::abs (long long *value*) [inline, static]

Returns the absolute value of an long long value. If the argument is not negative, the argument is returned. If the argument is negative, the negation of the argument is returned.

Parameters:

value - the value to return the abs of

Returns:

the value if positive, otherwise the negative of value

6.394.3.4 static int decaf::lang::Math::abs (int *value*) [inline, static]

Returns the absolute value of an int value. If the argument is not negative, the argument is returned. If the argument is negative, the negation of the argument is returned.

Parameters:

value - the value to return the abs of

Returns:

the value if positive, otherwise the negative of value

6.394.3.5 static double decaf::lang::Math::ceil (double *value*) [static]

Returns the natural logarithm (base e) of a double value. Special cases:

o If the argument is NaN or less than zero, then the result is NaN. o If the argument is positive infinity, then the result is positive infinity. o If the argument is positive zero or negative zero, then the result is negative infinity.

Parameters:

value the value to compute the natural log of.

Returns:

the natural log of value. Returns the base 10 logarithm of a double value. Special cases:

o If the argument is NaN or less than zero, then the result is NaN. o If the argument is positive infinity, then the result is positive infinity. o If the argument is positive zero or negative zero, then the result is negative infinity. o If the argument is equal to 10n for integer n, then the result is n.

Parameters:

value - the value to operate on

Returns:

the long base 10 of value Returns the natural logarithm of the sum of the argument and 1. Note that for small values x, the result of log1p(x) is much closer to the true result of ln(1 + x) than the floating-point evaluation of log(1.0+x).

Special cases:

o If the argument is NaN or less than -1, then the result is NaN. o If the argument is positive infinity, then the result is positive infinity. o If the argument is negative one, then the result is negative infinity. o If the argument is zero, then the result is a zero with the same sign as the argument.

Parameters:

value - the value to operate on

Returns:

the the value ln(x + 1), the natural log of x + 1 Returns the smallest (closest to negative infinity) double value that is greater than or equal to the argument and is equal to a mathematical integer. Special cases:

o If the argument value is already equal to a mathematical integer, then the result is the same as the argument. o If the argument is NaN or an infinity or positive zero or negative zero, then the result is the same as the argument. o If the argument value is less than zero but greater than -1.0, then the result is negative zero.

Note that the value of Math.ceil(x) is exactly the value of -Math.floor(-x).

Parameters:

value - the value to find the ceiling of

Returns:

the smallest (closest to negative infinity) floating-point value that is greater than or equal to the argument and is equal to a mathematical integer.

6.394.3.6 static double decaf::lang::Math::floor (double *value*) [static]

Returns the largest (closest to positive infinity) double value that is less than or equal to the argument and is equal to a mathematical integer. Special cases:

o If the argument value is already equal to a mathematical integer, then the result is the same as the argument. o If the argument is NaN or an infinity or positive zero or negative zero, then the result is the same as the argument.

Parameters:

value - the value to find the floor of

Returns:

the largest (closest to positive infinity) floating-point value that less than or equal to the argument and is equal to a mathematical integer.

6.394.3.7 static double decaf::lang::Math::max (double *a*, double *b*) [static]

Returns the greater of two double values. That is, the result is the argument closer to positive infinity. If the arguments have the same value, the result is that same value. If either value is NaN, then the result is NaN. Unlike the numerical comparison operators, this method considers negative zero to be strictly smaller than positive zero. If one argument is positive zero and the other negative zero, the result is positive zero.

Parameters:

a - an argument.

b - another argument.

Returns:

the larger of `a` and `b`.

6.394.3.8 static float decaf::lang::Math::max (float *a*, float *b*) [static]

Returns the greater of two float values. That is, the result is the argument closer to positive infinity. If the arguments have the same value, the result is that same value. If either value is NaN, then the result is NaN. Unlike the numerical comparison operators, this method considers negative zero to be strictly smaller than positive zero. If one argument is positive zero and the other negative zero, the result is positive zero.

Parameters:

a - an argument.

b - another argument.

Returns:

the larger of `a` and `b`.

6.394.3.9 static long long decaf::lang::Math::max (long long *a*, long long *b*) [inline, static]

Returns the larger of two `long long` values. That is, the result the argument closer to the value of `Long::MAX_VALUE` (p. 1967). If the arguments have the same value, the result is that same value.

Parameters:

a - an argument.

b - another argument.

Returns:

the larger of `a` and `b`.

6.394.3.10 static int decaf::lang::Math::max (int *a*, int *b*) [inline, static]

Returns the larger of two `int` values. That is, the result the argument closer to the value of `Integer::MAX_VALUE` (p. 1738). If the arguments have the same value, the result is that same value.

Parameters:

a - an argument.

b - another argument.

Returns:

the larger of `a` and `b`.

6.394.3.11 static short decaf::lang::Math::max (short *a*, short *b*) [inline, static]

Returns the larger of two `short` values. That is, the result the argument closer to the value of `Short::MAX_VALUE` (p. 2714). If the arguments have the same value, the result is that same value.

Parameters:

a - an argument.

b - another argument.

Returns:

the larger of `a` and `b`.

6.394.3.12 static double decaf::lang::Math::min (double *a*, double *b*) [static]

Returns the smaller of two double values. That is, the result is the value closer to negative infinity. If the arguments have the same value, the result is that same value. If either value is NaN, then the result is NaN. Unlike the numerical comparison operators, this method considers negative zero to be strictly smaller than positive zero. If one argument is positive zero and the other is negative zero, the result is negative zero.

Parameters:

a - an argument.

b - another argument.

Returns:

the smaller of `a` and `b`.

6.394.3.13 static float decaf::lang::Math::min (float *a*, float *b*) [static]

Returns the smaller of two float values. That is, the result is the value closer to negative infinity. If the arguments have the same value, the result is that same value. If either value is NaN, then the result is NaN. Unlike the numerical comparison operators, this method considers negative zero to be strictly smaller than positive zero. If one argument is positive zero and the other is negative zero, the result is negative zero.

Parameters:

a - an argument.

b - another argument.

Returns:

the smaller of `a` and `b`.

6.394.3.14 static long long decaf::lang::Math::min (long long *a*, long long *b*) [inline, static]

Returns the smaller of two `long long` values. That is, the result the argument closer to the value of `Long::MIN_VALUE` (p. 1967). If the arguments have the same value, the result is that same value.

Parameters:

a - an argument.

b - another argument.

Returns:

the smaller of `a` and `b`.

6.394.3.15 static unsigned int decaf::lang::Math::min (unsigned int *a*, unsigned int *b*) [inline, static]

Returns the smaller of two `unsigned int` values. That is, the result the argument closer to the value of `Integer::MIN_VALUE` (p. 1738). If the arguments have the same value, the result is that same value.

Parameters:

a - an argument.

b - another argument.

Returns:

the smaller of `a` and `b`.

6.394.3.16 static int decaf::lang::Math::min (int *a*, int *b*) [inline, static]

Returns the smaller of two `int` values. That is, the result the argument closer to the value of `Integer::MIN_VALUE` (p. 1738). If the arguments have the same value, the result is that same value.

Parameters:

a - an argument.

b - another argument.

Returns:

the smaller of `a` and `b`.

6.394.3.17 static short decaf::lang::Math::min (short *a*, short *b*) [inline, static]

Returns the double value that is closest in value to the argument and is equal to a mathematical integer. If two double values that are mathematical integers are equally close, the result is the integer value that is even. Special cases:

o If the argument value is already equal to a mathematical integer, then the result is the same as the argument. o If the argument is NaN or an infinity or positive zero or negative zero, then the result is the same as the argument.

Parameters:

value - the value to round to the nearest integer

Returns:

the rounded value Returns the smaller of two short values. That is, the result is the argument closer to the value of `decaf.lang.Short::MIN_VALUE` (p. 2714). If the arguments have the same value, the result is that same value.

Parameters:

a - an argument.

b - another argument.

Returns:

the smaller of `a` and `b`.

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::drainTo().

6.394.3.18 static double decaf::lang::Math::pow (double *base*, double *exp*) [static]

Returns the value of the first argument raised to the power of the second argument. Special cases:

o If the second argument is positive or negative zero, then the result is 1.0. o If the second argument is 1.0, then the result is the same as the first argument. o If the second argument is NaN, then the result is NaN. o If the first argument is NaN and the second argument is nonzero, then the result is NaN.

Parameters:

base - the base

exp - the exponent

Returns:

the base raised to the power of exp.

6.394.3.19 static double decaf::lang::Math::random () [static]

Computes the remainder operation on two arguments as prescribed by the IEEE 754 standard. The remainder value is mathematically equal to f1 - f2 × n, where n is the mathematical integer closest to the exact mathematical value of the quotient f1/f2, and if two mathematical integers are equally close to f1/f2, then n is the integer that is even. If the remainder is zero, its sign is the same as the sign of the first argument. Special cases:

o If either argument is NaN, or the first argument is infinite, or the second argument is positive zero or negative zero, then the result is NaN. o If the first argument is finite and the second argument is infinite, then the result is the same as the first argument.

Parameters:

f1 - the dividend.

f2 - the divisor

Returns:

the IEEE remainder of value Returns a double value with a positive sign, greater than or equal to 0.0 and less than 1.0. Returned values are chosen pseudorandomly with (approximately) uniform distribution from that range.

When this method is first called, it creates a single new pseudorandom-number generator; This new pseudorandom-number generator is used thereafter for all calls to this method and is used nowhere else.

This method is properly synchronized to allow correct use by more than one thread. However, if many threads need to generate pseudorandom numbers at a great rate, it may reduce contention for each thread to have its own pseudorandom-number generator.

Returns:

a pseudorandom double greater than or equal to 0.0 and less than 1.0.

6.394.3.20 static long long decaf::lang::Math::round (double *value*) [static]

Returns the closest long long to the argument. The result is rounded to an integer by adding 1/2, taking the floor of the result, and casting the result to type long long. In other words, the result is equal to the value of the expression: (long long)**Math.floor** (p. 2034)(a + 0.5d)

o If the argument is NaN, the result is 0. o If the argument is negative infinity or any value less than or equal to the value of **Long::MIN_VALUE** (p. 1967), the result is equal to the value of **Long::MIN_VALUE** (p. 1967). o If the argument is positive infinity or any value greater than or equal to the value of **Long::MAX_VALUE** (p. 1967), the result is equal to the value of **Long::MAX_VALUE** (p. 1967).

Parameters:

value - the value to round

Returns:

the value of the argument rounded to the nearest integral value.

6.394.3.21 static int decaf::lang::Math::round (float *value*) [static]

Returns the closest int to the argument. The result is rounded to an integer by adding 1/2, taking the floor of the result, and casting the result to type int. In other words, the result is equal to the value of the expression: (int)**Math.floor** (p. 2034)(a + 0.5f)

o If the argument is NaN, the result is 0. o If the argument is negative infinity or any value less than or equal to the value of **Integer::MIN_VALUE** (p. 1738), the result is equal to the value of **Integer::MIN_VALUE** (p. 1738). o If the argument is positive infinity or any value greater than or equal to the value of **Integer::MAX_VALUE** (p. 1738), the result is equal to the value of **Integer::MAX_VALUE** (p. 1738).

Parameters:

value - the value to round

Returns:

the value of the argument rounded to the nearest integral value.

6.394.3.22 static double decaf::lang::Math::signum (double *value*) [static]

Returns the signum function of the argument; zero if the argument is zero, 1.0f if the argument is greater than zero, -1.0f if the argument is less than zero. Special Cases:

o If the argument is NaN, then the result is NaN. o If the argument is positive zero or negative zero, then the result is the same as the argument.

Parameters:

value - the floating-point value whose signum is to be returned

Returns:

the signum function of the argument

6.394.3.23 static float decaf::lang::Math::signum (float *value*) [static]

Returns Euler's number e raised to the power of a double value. Special cases:

o If the argument is NaN, the result is NaN. o If the argument is positive infinity, then the result is positive infinity. o If the argument is negative infinity, then the result is positive zero.

Parameters:

value - the exponent to raise e to

Returns:

the value e^a, where e is the base of the natural logarithms. Returns e^x - 1. Note that for values of x near 0, the exact sum of expm1(x) + 1 is much closer to the true result of ex than exp(x). Special cases:

o If the argument is NaN, the result is NaN. o If the argument is positive infinity, then the result is positive infinity. o If the argument is negative infinity, then the result is -1.0. o If the argument is zero, then the result is a zero with the same sign as the argument.

Parameters:

value - the value to raise e^x - 1

Returns:

the value ex - 1. Returns sqrt(x^2 + y^2) without intermediate overflow or underflow. Special cases:

If either argument is infinite, then the result is positive infinity. If either argument is NaN and neither argument is infinite, then the result is NaN.

Parameters:

x - an argument

y - another argument

Returns:

the sqrt(x^2 + y^2) without intermediate overflow or underflow Returns the signum function of the argument; zero if the argument is zero, 1.0f if the argument is greater than zero, -1.0f if the argument is less than zero. Special Cases:

o If the argument is NaN, then the result is NaN. o If the argument is positive zero or negative zero, then the result is the same as the argument.

Parameters:

value - the floating-point value whose signum is to be returned

Returns:

the signum function of the argument

6.394.3.24 static double decaf::lang::Math::sqrt (double *value*) [static]

Returns the arc cosine of an angle, in the range of 0.0 through pi. Special case:

o If the argument is NaN or its absolute value is greater than 1, then the result is NaN.

Parameters:

value - the value to return the arc cosine of.

Returns:

arc cosine of value in radians. Returns the arc sine of an angle, in the range of -pi/2 through pi/2. Special cases:

o If the argument is NaN or its absolute value is greater than 1, then the result is NaN. o If the argument is zero, then the result is a zero with the same sign as the argument.

Parameters:

value - the value to return the arc cosine of.

Returns:

arc cosine of value in radians. Returns the arc tangent of an angle, in the range of -pi/2 through pi/2. Special cases:

o If the argument is NaN, then the result is NaN. o If the argument is zero, then the result is a zero with the same sign as the argument.

Parameters:

value - the value to return the arc cosine of.

Returns:

arc tangent of value in radians. Converts rectangular coordinates (x, y) to polar (r, theta). This method computes the phase theta by computing an arc tangent of y/x in the range of -pi to pi. Special cases:

o If either argument is NaN, then the result is NaN. o If the first argument is positive zero and the second argument is positive, or the first argument is positive and finite and the second argument is positive infinity, then the result is positive zero. o If the first argument is negative zero and the second argument is positive, or the first argument is negative and finite and the second argument is positive infinity, then the result is negative zero. o If the first argument is positive zero and the second argument is negative, or the first argument is positive and finite and the second argument is negative infinity, then the result is the double value closest to pi. o If the first argument is negative zero and the second argument is negative, or the first argument is negative and finite and the second argument is negative infinity, then the result is the double value closest to -pi. o If the first argument is positive and the second argument is positive zero or negative zero, or the first argument is positive infinity and the second argument is finite, then the result is the double value closest to pi/2. o If the first argument is negative and the second argument is positive zero or negative zero, or the first argument is negative infinity and the second argument is finite, then the result is the double value closest to -pi/2. o If both arguments are positive infinity, then the result is the double value closest to pi/4. o If the first argument is positive infinity and the second argument is negative infinity, then the result is the double value closest to 3∗pi/4. o If the first argument is negative infinity and the second argument is positive infinity, then the result is the double value closest to -pi/4. o If both arguments are negative infinity, then the result is the double value closest to -3∗pi/4.

Parameters:

y - the ordinate coordinate

x - the abscissa coordinate

Returns:

the theta component of the point (r, theta) in polar coordinates that corresponds to the point (x, y) in Cartesian coordinates. Returns the cube root of a double value. For positive finite x, cbrt(-x) == -cbrt(x); that is, the cube root of a negative value is the negative of the cube root of that value's magnitude. Special cases:

o If the argument is NaN, then the result is NaN. o If the argument is infinite, then the result is an infinity with the same sign as the argument. o If the argument is zero, then the result is a zero with the same sign as the argument.

Parameters:

value - the double to compute the cube root of

Returns:

the cube root of value Returns the trigonometric cosine of an angle. Special cases:

o If the argument is NaN or an infinity, then the result is NaN.

Parameters:

value - an value in radians

Returns:

the cosine of the argument. Returns the hyperbolic cosine of a double value. The hyperbolic cosine of x is defined to be (ex + e-x)/2 where e is Euler's number. Special cases:

o If the argument is NaN, then the result is NaN. o If the argument is infinite, then the result is positive infinity. o If the argument is zero, then the result is 1.0.

Parameters:

value - the number whose hyperbolic cosine is to be found

Returns:

the hyperbolic cosine of value Returns the trigonometric sine of an angle. Special case:

o If the argument is NaN or an infinity, then the result is NaN. o If the argument is zero, then the result is a zero with the same sign as the argument.

Parameters:

value - the number whose sin is to be found

Returns:

the sine of value Returns the hyperbolic sine of a double value. The hyperbolic sine of x is defined to be (ex - e-x)/2 where e is Euler's number. Special cases:

o If the argument is NaN, then the result is NaN. o If the argument is infinite, then the result is an infinity with the same sign as the argument. o If the argument is zero, then the result is a zero with the same sign as the argument.

Parameters:

value - the number whose hyperbolic sin is to be found

Returns:

the hyperbolic sine of value Returns the trigonometric tangent of an angle. Special cases:

o If the argument is NaN or an infinity, then the result is NaN. o If the argument is zero, then the result is a zero with the same sign as the argument.

Parameters:

value - the number whose tangent is to be found

Returns:

the tangent of value Returns the hyperbolic tangent of a double value. The hyperbolic tangent of x is defined to be (ex - e-x)/(ex + e-x), in other words, sinh(x)/cosh(x). Note that the absolute value of the exact tanh is always less than 1. Special cases:

o If the argument is NaN, then the result is NaN. o If the argument is zero, then the result is a zero with the same sign as the argument. o If the argument is positive infinity, then the result is +1.0. o If the argument is negative infinity, then the result is -1.0.

Parameters:

value - the number whose hyperbolic tangent is to be found

Returns:

the hyperbolic cosine of value Returns the correctly rounded positive square root of a double value. Special cases:

o If the argument is NaN or less than zero, then the result is NaN. o If the argument is positive infinity, then the result is positive infinity. o If the argument is positive zero or negative zero, then the result is the same as the argument.

Otherwise, the result is the double value closest to the true mathematical square root of the argument value.

Parameters:

value - the value to find the square root of

the square root of the argument.

6.394.3.25 static double decaf::lang::Math::toDegrees (double *angrad*) [inline, static]

Returns the measure in degrees of the supplied radian angle.

Parameters:

angrad - an angle in radians

Returns:

the degree measure of the angle.

6.394.3.26 static double decaf::lang::Math::toRadians (double *angdeg*) [inline, static]

Returns the measure in radians of the supplied degree angle.

Parameters:

angdeg - an angle in degrees

Returns:

the radian measure of the angle.

6.394.4 Field Documentation

6.394.4.1 const double decaf::lang::Math::E [static]

6.394.4.2 const double decaf::lang::Math::PI [static]

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Math.h**

6.395 decaf::internal::security::provider::crypto::MD4MessageDigestSpi Class Reference

MD4 MessageDigestSpi.

`#include <src/main/decaf/internal/security/provider/crypto/MD4MessageDigestSpi.h>`Inheritance diagram for decaf::internal::security::provider::crypto::MD4MessageDigestSpi:

Public Member Functions

- **MD4MessageDigestSpi** ()
- virtual ~**MD4MessageDigestSpi** ()
- virtual bool **isCloneable** () const

  Queries the SPI implementation and returns true if the SPI can be cloned.

- virtual MessageDigestSpi * **clone** ()

  Returns a clone if the implementation supports being cloned.

- virtual int **engineGetDigestLength** ()

  Returns the digest length in bytes.

- virtual void **engineUpdate** (unsigned char input)

  Updates the digest using the specified byte.

- virtual void **engineUpdate** (const unsigned char *input, int size, int offset, int length)

  Updates the digest using the specified array of bytes, starting at the specified offset.

- virtual void **engineReset** ()

  Resets the digest for further use.

- virtual void **engineUpdate** (const std::vector< unsigned char > &input)

  Update the digest using the specified Vector of Bytes.

- virtual void **engineUpdate** (**decaf::nio::ByteBuffer** &input)

  Update the digest using the specified ByteBuffer.

- virtual std::vector< unsigned char > **engineDigest** ()

  Completes the hash computation by performing final operations such as padding.

- virtual int **engineDigest** (unsigned char *buffer, int size, int offset, int length)

  Completes the hash computation by performing final operations such as padding.

6.395.1 Detailed Description

MD4 MessageDigestSpi.

Since:

1.0

6.395.2 Constructor & Destructor Documentation

6.395.2.1 decaf::internal::security::provider::crypto::MD4MessageDigestSpi::MD4MessageDigestSpi ()

6.395.2.2 virtual decaf::internal::security::provider::crypto::MD4MessageDigestSpi::~MD4MessageDigestSp () [virtual]

6.395.3 Member Function Documentation

6.395.3.1 virtual MessageDigestSpi* decaf::internal::security::provider::crypto::MD4MessageDigestSpi::clone () [virtual]

Returns a clone if the implementation supports being cloned.

Returns:

a new pointer that is a copy of this object.

Exceptions:

CloneNotSupportedException if this is called on an implementation that does not support cloning.

Reimplemented from **decaf::security::MessageDigestSpi** (p. 2128).

6.395.3.2 virtual int decaf::internal::security::provider::crypto::MD4MessageDigestSpi::engineDigest (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Completes the hash computation by performing final operations such as padding. Once engineDigest has been called, the engine should be reset (see engineReset). Resetting is the responsibility of the engine implementor.

Parameters:

buffer The output buffer in which to store the digest

size The size of the given input buffer

offset The offset to start from in the output buffer

length The number of bytes within buffer allotted for the digest. Both this default implementation and the SUN **provider** (p. 104) do not return partial digests. The presence of this parameter is solely for consistency in our API's. If the value of this parameter is less than the actual digest length, the method will throw a DigestException. This parameter is ignored if its value is greater than or equal to the actual digest length.

Returns:

the length of the digest stored in the output buffer.

Exceptions:

DigestException if an error occurs.

NullPointerException if the buffer pointer is NULL.

Implements **decaf::security::MessageDigestSpi** (p. 2128).

6.395.3.3 virtual std::vector<unsigned char> decaf::internal::security::provider::crypto::MD4MessageDigestSpi::engineDigest () [virtual]

Completes the hash computation by performing final operations such as padding. Once engineDigest has been called, the engine should be reset (see engineReset). Resetting is the responsibility of the engine implementor.

Returns:

an STL vector of bytes containing the resulting hash value.

Implements **decaf::security::MessageDigestSpi** (p. 2129).

6.395.3.4 virtual int decaf::internal::security::provider::crypto::MD4MessageDigestSpi::engineGetDigestLength () [virtual]

Returns the digest length in bytes.

Returns:

The digest length in bytes.

Implements **decaf::security::MessageDigestSpi** (p. 2129).

6.395.3.5 virtual void decaf::internal::security::provider::crypto::MD4MessageDigestSpi::engineReset () [virtual]

Resets the digest for further use.

Implements **decaf::security::MessageDigestSpi** (p. 2129).

6.395.3.6 virtual void decaf::internal::security::provider::crypto::MD4MessageDigestSpi::engineUpdate (decaf::nio::ByteBuffer & *input*) [virtual]

Update the digest using the specified ByteBuffer. The digest is updated using the input.remaining() bytes starting at input.position(). Upon return, the buffer's position will be equal to its limit; its limit will not have changed.

Parameters:

input The ByteBuffer instance that will be used to update the digest.

Implements **decaf::security::MessageDigestSpi** (p. 2130).

6.395.3.7 virtual void decaf::internal::security::provider::crypto::MD4MessageDigestSpi::engineUpdate (const std::vector< unsigned char > & *input*) [virtual]

Update the digest using the specified Vector of Bytes.

Parameters:

input The vector of bytes that will be used to update the digest.

Implements **decaf::security::MessageDigestSpi** (p. 2130).

6.395.3.8 virtual void decaf::internal::security::provider::crypto::MD4MessageDigestSpi::engineUpdate (const unsigned char * *input*, int *size*, int *offset*, int *length*) [virtual]

Updates the digest using the specified array of bytes, starting at the specified offset.

Parameters:

input The array of bytes to use for the update.

size The size of the given input buffer..

offset The offset to start from in the array of bytes.

length The number of bytes to use, starting at offset.

Exceptions:

NullPointerException if the input array pointer is NULL.

Implements **decaf::security::MessageDigestSpi** (p. 2130).

6.395.3.9 virtual void decaf::internal::security::provider::crypto::MD4MessageDigestSpi::engineUpdate (unsigned char *input*) [virtual]

Updates the digest using the specified byte.

Parameters:

input The byte to use for the update.

Implements **decaf::security::MessageDigestSpi** (p. 2131).

6.395.3.10 virtual bool decaf::internal::security::provider::crypto::MD4MessageDigestSpi::isCloneable () const [inline, virtual]

Queries the SPI implementation and returns true if the SPI can be cloned.

Returns:

true if the SPI is clonable.

Reimplemented from **decaf::security::MessageDigestSpi** (p. 2131).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/security/provider/crypto/**MD4MessageDigestSpi.h**

6.396 decaf::internal::security::provider::crypto::MD5MessageDigestSpi Class Reference

MD5 MessageDigestSpi.

`#include <src/main/decaf/internal/security/provider/crypto/MD5MessageDigestSpi.h>`Inheritance diagram for decaf::internal::security::provider::crypto::MD5MessageDigestSpi:

Public Member Functions

- **MD5MessageDigestSpi** ()
- virtual ~**MD5MessageDigestSpi** ()
- virtual bool **isCloneable** () const

  Queries the SPI implementation and returns true if the SPI can be cloned.

- virtual MessageDigestSpi * **clone** ()

  Returns a clone if the implementation supports being cloned.

- virtual int **engineGetDigestLength** ()

  Returns the digest length in bytes.

- virtual void **engineUpdate** (unsigned char input)

  Updates the digest using the specified byte.

- virtual void **engineUpdate** (const unsigned char *input, int size, int offset, int length)

  Updates the digest using the specified array of bytes, starting at the specified offset.

- virtual void **engineReset** ()

  Resets the digest for further use.

- virtual void **engineUpdate** (const std::vector< unsigned char > &input)

  Update the digest using the specified Vector of Bytes.

- virtual void **engineUpdate** (**decaf::nio::ByteBuffer** &input)

  Update the digest using the specified ByteBuffer.

- virtual std::vector< unsigned char > **engineDigest** ()

  Completes the hash computation by performing final operations such as padding.

- virtual int **engineDigest** (unsigned char *buffer, int size, int offset, int length)

  Completes the hash computation by performing final operations such as padding.

6.396.1 Detailed Description

MD5 MessageDigestSpi.

Since:

1.0

6.396.2 Constructor & Destructor Documentation

6.396.2.1 decaf::internal::security::provider::crypto::MD5MessageDigestSpi::MD5MessageDigestSpi ()

6.396.2.2 virtual decaf::internal::security::provider::crypto::MD5MessageDigestSpi::~MD5MessageDigestSp () [virtual]

6.396.3 Member Function Documentation

6.396.3.1 virtual MessageDigestSpi* decaf::internal::security::provider::crypto::MD5MessageDigestSpi::clone () [virtual]

Returns a clone if the implementation supports being cloned.

Returns:

a new pointer that is a copy of this object.

Exceptions:

CloneNotSupportedException if this is called on an implementation that does not support cloning.

Reimplemented from **decaf::security::MessageDigestSpi** (p. 2128).

6.396.3.2 virtual int decaf::internal::security::provider::crypto::MD5MessageDigestSpi::engineDigest (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Completes the hash computation by performing final operations such as padding. Once engineDigest has been called, the engine should be reset (see engineReset). Resetting is the responsibility of the engine implementor.

Parameters:

buffer The output buffer in which to store the digest

size The size of the given input buffer

offset The offset to start from in the output buffer

length The number of bytes within buffer allotted for the digest. Both this default implementation and the SUN **provider** (p. 104) do not return partial digests. The presence of this parameter is solely for consistency in our API's. If the value of this parameter is less than the actual digest length, the method will throw a DigestException. This parameter is ignored if its value is greater than or equal to the actual digest length.

Returns:

the length of the digest stored in the output buffer.

Exceptions:

DigestException if an error occurs.

NullPointerException if the buffer pointer is NULL.

Implements **decaf::security::MessageDigestSpi** (p. 2128).

6.396.3.3 virtual std::vector<unsigned char> decaf::internal::security::provider::crypto::MD5MessageDigestSpi::engineDigest () [virtual]

Completes the hash computation by performing final operations such as padding. Once engineDigest has been called, the engine should be reset (see engineReset). Resetting is the responsibility of the engine implementor.

Returns:

an STL vector of bytes containing the resulting hash value.

Implements **decaf::security::MessageDigestSpi** (p. 2129).

6.396.3.4 virtual int decaf::internal::security::provider::crypto::MD5MessageDigestSpi::engineGetDigestLength () [virtual]

Returns the digest length in bytes.

Returns:

The digest length in bytes.

Implements **decaf::security::MessageDigestSpi** (p. 2129).

6.396.3.5 virtual void decaf::internal::security::provider::crypto::MD5MessageDigestSpi::engineReset () [virtual]

Resets the digest for further use.

Implements **decaf::security::MessageDigestSpi** (p. 2129).

6.396.3.6 virtual void decaf::internal::security::provider::crypto::MD5MessageDigestSpi::engineUpdate (decaf::nio::ByteBuffer & *input*) [virtual]

Update the digest using the specified ByteBuffer. The digest is updated using the input.remaining() bytes starting at input.position(). Upon return, the buffer's position will be equal to its limit; its limit will not have changed.

Parameters:

input The ByteBuffer instance that will be used to update the digest.

Implements **decaf::security::MessageDigestSpi** (p. 2130).

6.396.3.7 virtual void decaf::internal::security::provider::crypto::MD5MessageDigestSpi::engineUpdate (const std::vector< unsigned char > & *input*) [virtual]

Update the digest using the specified Vector of Bytes.

Parameters:

input The vector of bytes that will be used to update the digest.

Implements **decaf::security::MessageDigestSpi** (p. 2130).

6.396.3.8 virtual void decaf::internal::security::provider::crypto::MD5MessageDigestSpi::engineUpdate (const unsigned char * *input*, int *size*, int *offset*, int *length*) [virtual]

Updates the digest using the specified array of bytes, starting at the specified offset.

Parameters:

input The array of bytes to use for the update.

size The size of the given input buffer..

offset The offset to start from in the array of bytes.

length The number of bytes to use, starting at offset.

Exceptions:

NullPointerException if the input array pointer is NULL.

Implements **decaf::security::MessageDigestSpi** (p. 2130).

6.396.3.9 virtual void decaf::internal::security::provider::crypto::MD5MessageDigestSpi::engineUpdate (unsigned char *input*) [virtual]

Updates the digest using the specified byte.

Parameters:

input The byte to use for the update.

Implements **decaf::security::MessageDigestSpi** (p. 2131).

6.396.3.10 virtual bool decaf::internal::security::provider::crypto::MD5MessageDigestSpi::isCloneable () const [inline, virtual]

Queries the SPI implementation and returns true if the SPI can be cloned.

Returns:

true if the SPI is clonable.

Reimplemented from **decaf::security::MessageDigestSpi** (p. 2131).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/security/provider/crypto/**MD5MessageDigestSpi.h**

6.397 activemq::util::MemoryUsage Class Reference

`#include <src/main/activemq/util/MemoryUsage.h>`Inheritance diagram for activemq::util::MemoryUsage:

Public Member Functions

- **MemoryUsage** ()

  Default Constructor.

- **MemoryUsage** (unsigned long long limit)

  Creates an instance of an ***Usage*** *(*p. *3198) monitor with a set limit.*

- virtual ~**MemoryUsage** ()
- virtual void **waitForSpace** ()

  Waits forever for more space to be returned to this ***Usage*** *(*p. *3198) Manager.*

- virtual void **waitForSpace** (unsigned int timeout)

  Waits for more space to be returned to this ***Usage*** *(*p. *3198) Manager, times out when the given time span in milliseconds elapses.*

- virtual void **enqueueUsage** (unsigned long long value)

  Tries to increase the usage by value amount but blocks if this object is currently full.

- virtual void **increaseUsage** (unsigned long long value)

  Increases the usage by the value amount.

- virtual void **decreaseUsage** (unsigned long long value)

  Decreases the usage by the value amount.

- virtual bool **isFull** () const

  Returns true if this ***Usage*** *(*p. *3198) instance is full, i.e.*

- unsigned long long **getUsage** () const

  Gets the current usage amount.

- void **setUsage** (unsigned long long usage)

  Sets the current usage amount.

- unsigned long long **getLimit** () const

  Gets the current limit amount.

- void **setLimit** (unsigned long long limit)

  Sets the current limit amount.

6.397.1 Constructor & Destructor Documentation

6.397.1.1 activemq::util::MemoryUsage::MemoryUsage ()

Default Constructor.

6.397.1.2 activemq::util::MemoryUsage::MemoryUsage (unsigned long long *limit*)

Creates an instance of an **Usage** (p. 3198) monitor with a set limit.

Parameters:

limit - amount of memory this manager allows.

6.397.1.3 virtual activemq::util::MemoryUsage::~MemoryUsage () [virtual]

6.397.2 Member Function Documentation

6.397.2.1 virtual void activemq::util::MemoryUsage::decreaseUsage (unsigned long long *value*) [virtual]

Decreases the usage by the value amount.

Parameters:

value Amount of space to return to the pool

Implements **activemq::util::Usage** (p. 3198).

6.397.2.2 virtual void activemq::util::MemoryUsage::enqueueUsage (unsigned long long *value*) [inline, virtual]

Tries to increase the usage by value amount but blocks if this object is currently full.

Parameters:

value Amount of usage in bytes to add.

Implements **activemq::util::Usage** (p. 3198).

6.397.2.3 unsigned long long activemq::util::MemoryUsage::getLimit () const [inline]

Gets the current limit amount.

Returns:

the amount that can be used before full.

6.397.2.4 unsigned long long activemq::util::MemoryUsage::getUsage () const [inline]

Gets the current usage amount.

Returns:

the amount of bytes currently used.

6.397.2.5 virtual void activemq::util::MemoryUsage::increaseUsage (unsigned long long *value*) [virtual]

Increases the usage by the value amount.

Parameters:

value Amount of usage to add.

Implements **activemq::util::Usage** (p. 3199).

6.397.2.6 virtual bool activemq::util::MemoryUsage::isFull () const [virtual]

Returns true if this **Usage** (p. 3198) instance is full, i.e. **Usage** (p. 3198) >= 100%

Implements **activemq::util::Usage** (p. 3199).

6.397.2.7 void activemq::util::MemoryUsage::setLimit (unsigned long long *limit*) [inline]

Sets the current limit amount.

Parameters:

limit - The amount that can be used before full.

6.397.2.8 void activemq::util::MemoryUsage::setUsage (unsigned long long *usage*) [inline]

Sets the current usage amount.

Parameters:

usage - The amount to tag as used.

6.397.2.9 virtual void activemq::util::MemoryUsage::waitForSpace (unsigned int *timeout*) [virtual]

Waits for more space to be returned to this **Usage** (p. 3198) Manager, times out when the given time span in milliseconds elapses.

Parameters:

timeout The time to wait for more space.

Implements **activemq::util::Usage** (p. 3199).

6.397.2.10 virtual void activemq::util::MemoryUsage::waitForSpace () [virtual]

Waits forever for more space to be returned to this **Usage** (p. 3198) Manager.

Implements **activemq::util::Usage** (p. 3199).

The documentation for this class was generated from the following file:

- src/main/activemq/util/**MemoryUsage.h**

6.398 activemq::commands::Message Class Reference

`#include <src/main/activemq/commands/Message.h>`Inheritance diagram for activemq::commands::Message:

Public Member Functions

- **Message** ()
- virtual ~**Message** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **Message** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- **Pointer**< **Message** > **copy** () const

  Create a Pointer based copy of this message.

- virtual void **beforeMarshal** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED)

  Handles the marshaling of the objects properties into the internal byte array before the object is marshaled to the wire.

- virtual void **afterUnmarshal** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED)

  Called after unmarshaling is started to cleanup the object being unmarshaled.

- virtual bool **isMarshalAware** () const

  Indicates that this command is aware of Marshaling, and needs to have its Marshaling methods invoked.

- virtual void **setAckHandler** (const **Pointer**< **core::ActiveMQAckHandler** > &handler)

  *Sets the Acknowledgment Handler that this **Message** (p. 2059) will use when the Acknowledge method is called.*

- virtual **Pointer**< **core::ActiveMQAckHandler** > **getAckHandler** () const

  *Gets the Acknowledgment Handler that this **Message** (p. 2059) will use when the Acknowledge method is called.*

- void **setConnection** (**core::ActiveMQConnection** *__connection__)

  Sets the ActiveMQConnection instance that this ***Command*** *(p. 1013) was created from when the session create methods are called to create a* ***Message*** *(p. 2059).*

- **core::ActiveMQConnection** * **getConnection** () const

  Gets the ActiveMQConnection instance that this ***Command*** *(p. 1013) was created from when the session create methods are called to create a* ***Message*** *(p. 2059).*

- virtual unsigned int **getSize** () const

  Returns the Size of this message in Bytes.

- virtual bool **isExpired** () const

  Returns if this message has expired, meaning that its Expiration time has elapsed.

- virtual void **onSend** ()

  Allows derived ***Message*** *(p. 2059) classes to perform tasks before a message is sent.*

- **util::PrimitiveMap** & **getMessageProperties** ()

  Gets a reference to the Message's Properties object, allows the derived classes to get and set their own specific properties.

- const **util::PrimitiveMap** & **getMessageProperties** () const
- bool **isReadOnlyProperties** () const

  Returns if the ***Message*** *(p. 2059) Properties Are Read Only.*

- void **setReadOnlyProperties** (bool value)

  Set the Read Only State of the ***Message*** *(p. 2059) Properties.*

- bool **isReadOnlyBody** () const

  Returns if the ***Message*** *(p. 2059) Body is Read Only.*

- void **setReadOnlyBody** (bool value)

  Set the Read Only State of the ***Message*** *(p. 2059) Content.*

- virtual const **Pointer< ProducerId >** & **getProducerId** () const
- virtual **Pointer< ProducerId >** & **getProducerId** ()
- virtual void **setProducerId** (const **Pointer< ProducerId >** &__producerId__)
- virtual const **Pointer< ActiveMQDestination >** & **getDestination** () const
- virtual **Pointer< ActiveMQDestination >** & **getDestination** ()
- virtual void **setDestination** (const **Pointer< ActiveMQDestination >** &__destination__)
- virtual const **Pointer< TransactionId >** & **getTransactionId** () const
- virtual **Pointer< TransactionId >** & **getTransactionId** ()
- virtual void **setTransactionId** (const **Pointer< TransactionId >** &__transactionId__)
- virtual const **Pointer< ActiveMQDestination >** & **getOriginalDestination** () const
- virtual **Pointer< ActiveMQDestination >** & **getOriginalDestination** ()
- virtual void **setOriginalDestination** (const **Pointer< ActiveMQDestination >** &__originalDestination__)
- virtual const **Pointer< MessageId >** & **getMessageId** () const
- virtual **Pointer< MessageId >** & **getMessageId** ()
- virtual void **setMessageId** (const **Pointer< MessageId >** &__messageId__)

- virtual const **Pointer**< **TransactionId** > & **getOriginalTransactionId** () const
- virtual **Pointer**< **TransactionId** > & **getOriginalTransactionId** ()
- virtual void **setOriginalTransactionId** (const **Pointer**< **TransactionId** > &**originalTransactionId**)
- virtual const std::string & **getGroupID** () const
- virtual std::string & **getGroupID** ()
- virtual void **setGroupID** (const std::string &**groupID**)
- virtual int **getGroupSequence** () const
- virtual void **setGroupSequence** (int **groupSequence**)
- virtual const std::string & **getCorrelationId** () const
- virtual std::string & **getCorrelationId** ()
- virtual void **setCorrelationId** (const std::string &**correlationId**)
- virtual bool **isPersistent** () const
- virtual void **setPersistent** (bool **persistent**)
- virtual long long **getExpiration** () const
- virtual void **setExpiration** (long long **expiration**)
- virtual unsigned char **getPriority** () const
- virtual void **setPriority** (unsigned char **priority**)
- virtual const **Pointer**< **ActiveMQDestination** > & **getReplyTo** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getReplyTo** ()
- virtual void **setReplyTo** (const **Pointer**< **ActiveMQDestination** > &**replyTo**)
- virtual long long **getTimestamp** () const
- virtual void **setTimestamp** (long long **timestamp**)
- virtual const std::string & **getType** () const
- virtual std::string & **getType** ()
- virtual void **setType** (const std::string &**type**)
- virtual const std::vector< unsigned char > & **getContent** () const
- virtual std::vector< unsigned char > & **getContent** ()
- virtual void **setContent** (const std::vector< unsigned char > &**content**)
- virtual const std::vector< unsigned char > & **getMarshalledProperties** () const
- virtual std::vector< unsigned char > & **getMarshalledProperties** ()
- virtual void **setMarshalledProperties** (const std::vector< unsigned char > &**marshalledProperties**)
- virtual const **Pointer**< **DataStructure** > & **getDataStructure** () const
- virtual **Pointer**< **DataStructure** > & **getDataStructure** ()
- virtual void **setDataStructure** (const **Pointer**< **DataStructure** > &**dataStructure**)
- virtual const **Pointer**< **ConsumerId** > & **getTargetConsumerId** () const
- virtual **Pointer**< **ConsumerId** > & **getTargetConsumerId** ()
- virtual void **setTargetConsumerId** (const **Pointer**< **ConsumerId** > &**targetConsumerId**)
- virtual bool **isCompressed** () const
- virtual void **setCompressed** (bool **compressed**)
- virtual int **getRedeliveryCounter** () const
- virtual void **setRedeliveryCounter** (int **redeliveryCounter**)
- virtual const std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** () const
- virtual std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** ()
- virtual void **setBrokerPath** (const std::vector< **decaf::lang::Pointer**< **BrokerId** > > &**brokerPath**)
- virtual long long **getArrival** () const

- virtual void **setArrival** (long long **arrival**)
- virtual const std::string & **getUserID** () const
- virtual std::string & **getUserID** ()
- virtual void **setUserID** (const std::string &**userID**)
- virtual bool **isRecievedByDFBridge** () const
- virtual void **setRecievedByDFBridge** (bool **recievedByDFBridge**)
- virtual bool **isDroppable** () const
- virtual void **setDroppable** (bool **droppable**)
- virtual const std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getCluster** () const
- virtual std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getCluster** ()
- virtual void **setCluster** (const std::vector< **decaf::lang::Pointer**< **BrokerId** > > &**cluster**)
- virtual long long **getBrokerInTime** () const
- virtual void **setBrokerInTime** (long long **brokerInTime**)
- virtual long long **getBrokerOutTime** () const
- virtual void **setBrokerOutTime** (long long **brokerOutTime**)
- virtual bool **isMessage** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_MESSAGE** = 0

Protected Attributes

- **Pointer**< **ProducerId** > **producerId**
- **Pointer**< **ActiveMQDestination** > **destination**
- **Pointer**< **TransactionId** > **transactionId**
- **Pointer**< **ActiveMQDestination** > **originalDestination**
- **Pointer**< **MessageId** > **messageId**
- **Pointer**< **TransactionId** > **originalTransactionId**
- std::string **groupID**
- int **groupSequence**
- std::string **correlationId**
- bool **persistent**
- long long **expiration**
- unsigned char **priority**
- **Pointer**< **ActiveMQDestination** > **replyTo**
- long long **timestamp**
- std::string **type**
- std::vector< unsigned char > **content**
- std::vector< unsigned char > **marshalledProperties**
- **Pointer**< **DataStructure** > **dataStructure**
- **Pointer**< **ConsumerId** > **targetConsumerId**
- bool **compressed**
- int **redeliveryCounter**
- std::vector< **decaf::lang::Pointer**< **BrokerId** > > **brokerPath**

- long long **arrival**
- std::string **userID**
- bool **recievedByDFBridge**
- bool **droppable**
- std::vector< **decaf::lang::Pointer**< **BrokerId** > > **cluster**
- long long **brokerInTime**
- long long **brokerOutTime**
- **core::ActiveMQConnection** * **connection**

Static Protected Attributes

- static const unsigned int **DEFAULT_MESSAGE_SIZE** = 1024

6.398.1 Constructor & Destructor Documentation

6.398.1.1 activemq::commands::Message::Message ()

6.398.1.2 virtual activemq::commands::Message::~Message () [virtual]

6.398.2 Member Function Documentation

6.398.2.1 virtual void activemq::commands::Message::afterUnmarshal (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*) [virtual]

Called after unmarshaling is started to cleanup the object being unmarshaled.

Parameters:

wireFormat - the **wireformat** (p. 81) object to control unmarshaling

Reimplemented from **activemq::commands::BaseDataStructure** (p. 663).

6.398.2.2 virtual void activemq::commands::Message::beforeMarshal (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*) [virtual]

Handles the marshaling of the objects properties into the internal byte array before the object is marshaled to the wire.

Parameters:

wireFormat - the **wireformat** (p. 81) controller

Reimplemented from **activemq::commands::BaseDataStructure** (p. 664).

6.398.2.3 virtual Message* activemq::commands::Message::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 205), **activemq::commands::ActiveMQBytesMessage** (p. 216), **activemq::commands::ActiveMQMapMessage** (p. 344), **activemq::commands::ActiveMQMessage** (p. 360), **activemq::commands::ActiveMQObjectMessage** (p. 380), **activemq::commands::ActiveMQStreamMessage** (p. 472), and **activemq::commands::ActiveMQTextMessage** (p. 514).

6.398.2.4 Pointer<Message> activemq::commands::Message::copy () const [inline]

Create a Pointer based copy of this message. Useful for chaining a clone operation with other operation such as casting to a **cms** (p. 91) **Message** (p. 2059) type.

Pointer<cms::Message> cmsMsg = message->**copy()** (p. 2064).dynamic_cast<cms::Message>();

Returns:

a **Pointer<Message>** (p. 2355) which is a duplicate of this object.

6.398.2.5 virtual void activemq::commands::Message::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 205), **activemq::commands::ActiveMQBytesMessage** (p. 216), **activemq::commands::ActiveMQMapMessage** (p. 344), **activemq::commands::ActiveMQMessage** (p. 360), **activemq::commands::ActiveMQObjectMessage** (p. 380), **activemq::commands::ActiveMQStreamMessage** (p. 472), and **activemq::commands::ActiveMQTextMessage** (p. 514).

6.398.2.6 virtual bool activemq::commands::Message::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 206), **activemq::commands::ActiveMQBytesMessage** (p. 216), **activemq::commands::ActiveMQMapMessage** (p. 345), **activemq::commands::ActiveMQMessage** (p. 360), **activemq::commands::ActiveMQMessageTemplate< T >** (p. 372), **activemq::commands::ActiveMQObjectMessage** (p. 380), **activemq::commands::ActiveMQStreamMessage** (p. 472), **activemq::commands::ActiveMQTextMessage** (p. 514), **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 372), **activemq::commands::ActiveMQMessageTemplate<**

cms::MapMessage > (p. 372), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 372), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 372), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 372), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 372).

6.398.2.7 virtual Pointer<core::ActiveMQAckHandler> activemq::commands::Message::getAckHandler () const [inline, virtual]

Gets the Acknowledgment Handler that this **Message** (p. 2059) will use when the Acknowledge method is called.

Returns:

handler ActiveMQAckHandler to call or NULL if not set

6.398.2.8 virtual long long activemq::commands::Message::getArrival () const [virtual]

6.398.2.9 virtual long long activemq::commands::Message::getBrokerInTime () const [virtual]

6.398.2.10 virtual long long activemq::commands::Message::getBrokerOutTime () const [virtual]

6.398.2.11 virtual std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::Message::getBrokerPath () [virtual]

6.398.2.12 virtual const std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::Message::getBrokerPath () const [virtual]

6.398.2.13 virtual std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::Message::getCluster () [virtual]

6.398.2.14 virtual const std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::Message::getCluster () const [virtual]

6.398.2.15 core::ActiveMQConnection* activemq::commands::Message::getConnection () const [inline]

Gets the ActiveMQConnection instance that this **Command** (p. 1013) was created from when the session create methods are called to create a **Message** (p. 2059).

Returns:

the ActiveMQConnection parent for this **Message** (p. 2059) or NULL if not set.

6.398.2.16 virtual std::vector<unsigned char>& activemq::commands::Message::getContent () [virtual]

6.398.2.17 virtual const std::vector<unsigned char>& activemq::commands::Message::getContent () const [virtual]

6.398.2.18 virtual std::string& activemq::commands::Message::getCorrelationId () [virtual]

6.398.2.19 virtual const std::string& activemq::commands::Message::getCorrelationId () const [virtual]

6.398.2.20 virtual Pointer<DataStructure>& activemq::commands::Message::getDataStructure () [virtual]

6.398.2.21 virtual const Pointer<DataStructure>& activemq::commands::Message::getDataStructure () const [virtual]

6.398.2.22 virtual unsigned char activemq::commands::Message::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 206), **activemq::commands::ActiveMQBytesMessage** (p. 217), **activemq::commands::ActiveMQMapMessage** (p. 346), **activemq::commands::ActiveMQMessage** (p. 360), **activemq::commands::ActiveMQObjectMessage** (p. 381), **activemq::commands::ActiveMQStreamMessage** (p. 472), and **activemq::commands::ActiveMQTextMessage** (p. 514).

6.398.2.23 virtual Pointer<ActiveMQDestination>& activemq::commands::Message::getDestination () [virtual]

6.398.2.24 virtual const Pointer<ActiveMQDestination>& activemq::commands::Message::getDestination () const [virtual]

6.398.2.25 virtual long long activemq::commands::Message::getExpiration () const [virtual]

6.398.2.26 virtual std::string& activemq::commands::Message::getGroupID () [virtual]

6.398.2.27 virtual const std::string& activemq::commands::Message::getGroupID () const [virtual]

6.398.2.28 virtual int activemq::commands::Message::getGroupSequence () const [virtual]

6.398.2.29 virtual std::vector<unsigned char>& activemq::commands::Message::getMarshalledProperties () [virtual]

6.398.2.30 virtual const std::vector<unsigned char>& activemq::commands::Message::getMarshalledProperties () const [virtual]

6.398.2.31 virtual Pointer<MessageId>& activemq::commands::Message::getMessageId () [virtual]

6.398.2.32 virtual const Pointer<MessageId>& activemq::commands::Message::getMessageId () const [virtual]

6.398.2.33 const util::PrimitiveMap& activemq::commands::Message::getMessageProperties () const [inline]

6.398.2.34 util::PrimitiveMap& activemq::commands::Message::getMessageProperties () [inline]

Gets a reference to the Message's Properties object, allows the derived classes to get and set their own specific properties.

Returns:

a reference to the Primitive Map that holds message properties.

6.398.2.35 virtual Pointer<ActiveMQDestination>& activemq::commands::Message::getOriginalDestination () [virtual]

6.398.2.36 virtual const Pointer<ActiveMQDestination>& activemq::commands::Message::getOriginalDestination () const [virtual]

6.398.2.37 virtual Pointer<TransactionId>& activemq::commands::Message::getOriginalTransactionId () [virtual]

6.398.2.38 virtual const Pointer<TransactionId>& activemq::commands::Message::getOriginalTransactionId () const [virtual]

6.398.2.39 virtual unsigned char activemq::commands::Message::getPriority () const [virtual]

6.398.2.40 virtual Pointer<ProducerId>& activemq::commands::Message::getProducerId () [virtual]

6.398.2.41 virtual const Pointer<ProducerId>& activemq::commands::Message::getProducerId () const [virtual]

6.398.2.42 virtual int activemq::commands::Message::getRedeliveryCounter () const [virtual]

6.398.2.43 virtual Pointer<ActiveMQDestination>& activemq::commands::Message::getReplyTo () [virtual]

6.398.2.44 virtual const Pointer<ActiveMQDestination>& activemq::commands::Message::getReplyTo () const [virtual]

6.398.2.45 virtual unsigned int activemq::commands::Message::getSize () const [virtual]

Returns the Size of this message in Bytes.

Returns:

number of bytes this message equates to.

Reimplemented in **activemq::commands::ActiveMQTextMessage** (p. 515).

6.398.2.46 virtual Pointer<ConsumerId>& activemq::commands::Message::getTargetConsumerId () [virtual]

6.398.2.47 virtual const Pointer<ConsumerId>& activemq::commands::Message::getTargetConsumerId () const [virtual]

6.398.2.48 virtual long long activemq::commands::Message::getTimestamp () const [virtual]

6.398.2.49 virtual Pointer<TransactionId>& activemq::commands::Message::getTransactionId () [virtual]

6.398.2.50 virtual const Pointer<TransactionId>& activemq::commands::Message::getTransactionId () const [virtual]

6.398.2.51 virtual std::string& activemq::commands::Message::getType () [virtual]

6.398.2.52 virtual const std::string& activemq::commands::Message::getType () const [virtual]

6.398.2.53 virtual std::string& activemq::commands::Message::getUserID () [virtual]

6.398.2.54 virtual const std::string& activemq::commands::Message::getUserID () const [virtual]

6.398.2.55 virtual bool activemq::commands::Message::isCompressed () const [virtual]

6.398.2.56 virtual bool activemq::commands::Message::isDroppable () const [virtual]

6.398.2.57 virtual bool activemq::commands::Message::isExpired () const [virtual]

Returns if this message has expired, meaning that its Expiration time has elapsed.

Returns:

true if message is expired.

6.398.2.58 virtual bool activemq::commands::Message::isMarshalAware () const [inline, virtual]

Indicates that this command is aware of Marshaling, and needs to have its Marshaling methods invoked.

Returns:

boolean indicating desire to be in marshaling stages

Reimplemented from **activemq::commands::BaseDataStructure** (p. 664).

Reimplemented in **activemq::commands::ActiveMQMapMessage** (p. 350).

6.398.2.59 virtual bool activemq::commands::Message::isMessage () const [inline, virtual]

Returns:

an answer of true to the **isMessage()** (p. 2070) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 632).

6.398.2.60 virtual bool activemq::commands::Message::isPersistent () const [virtual]

6.398.2.61 bool activemq::commands::Message::isReadOnlyBody () const [inline]

Returns if the **Message** (p. 2059) Body is Read Only.

Returns:

true if **Message** (p. 2059) Content is Read Only.

6.398.2.62 bool activemq::commands::Message::isReadOnlyProperties () const [inline]

Returns if the **Message** (p. 2059) Properties Are Read Only.

Returns:

true if **Message** (p. 2059) Properties are Read Only.

6.398.2.63 virtual bool activemq::commands::Message::isRecievedByDFBridge () const [virtual]

6.398.2.64 virtual void activemq::commands::Message::onSend () [inline, virtual]

Allows derived **Message** (p. 2059) classes to perform tasks before a message is sent.

Reimplemented in **activemq::commands::ActiveMQBytesMessage** (p. 217), **activemq::commands::ActiveMQMessageTemplate< T >** (p. 373), **activemq::commands::ActiveMQStreamMessage** (p. 473), **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 373).

6.398.2.65 virtual void activemq::commands::Message::setAckHandler (const Pointer< core::ActiveMQAckHandler > & *handler*) [inline, virtual]

Sets the Acknowledgment Handler that this **Message** (p. 2059) will use when the Acknowledge method is called.

Parameters:

handler ActiveMQAckHandler to call

6.398.2.66 virtual void activemq::commands::Message::setArrival (long long *arrival*) [virtual]

6.398.2.67 virtual void activemq::commands::Message::setBrokerInTime (long long *brokerInTime*) [virtual]

6.398.2.68 virtual void activemq::commands::Message::setBrokerOutTime (long long *brokerOutTime*) [virtual]

6.398.2.69 virtual void activemq::commands::Message::setBrokerPath (const std::vector< decaf::lang::Pointer< BrokerId > > & *brokerPath*) [virtual]

6.398.2.70 virtual void activemq::commands::Message::setCluster (const std::vector< decaf::lang::Pointer< BrokerId > > & *cluster*) [virtual]

6.398.2.71 virtual void activemq::commands::Message::setCompressed (bool *compressed*) [virtual]

6.398.2.72 void activemq::commands::Message::setConnection (core::ActiveMQConnection * *connection*) [inline]

Sets the ActiveMQConnection instance that this **Command** (p. 1013) was created from when the session create methods are called to create a **Message** (p. 2059).

Parameters:

handler ActiveMQConnection parent for this message

6.398.2.73 virtual void activemq::commands::Message::setContent (const std::vector< unsigned char > & *content*) [virtual]

6.398.2.74 virtual void activemq::commands::Message::setCorrelationId (const std::string & *correlationId*) [virtual]

6.398.2.75 virtual void activemq::commands::Message::setDataStructure (const Pointer< DataStructure > & *dataStructure*) [virtual]

6.398.2.76 virtual void activemq::commands::Message::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.398.2.77 virtual void activemq::commands::Message::setDroppable (bool *droppable*) [virtual]

6.398.2.78 virtual void activemq::commands::Message::setExpiration (long long *expiration*) [virtual]

6.398.2.79 virtual void activemq::commands::Message::setGroupID (const std::string & *groupID*) [virtual]

6.398.2.80 virtual void activemq::commands::Message::setGroupSequence (int *groupSequence*) [virtual]

6.398.2.81 virtual void activemq::commands::Message::setMarshalledProperties (const std::vector< unsigned char > & *marshalledProperties*) [virtual]

6.398.2.82 virtual void activemq::commands::Message::setMessageId (const Pointer< MessageId > & *messageId*) [virtual]

6.398.2.83 virtual void activemq::commands::Message::setOriginalDestination (const Pointer< ActiveMQDestination > & *originalDestination*) [virtual]

6.398.2.84 virtual void activemq::commands::Message::setOriginalTransactionId (const Pointer< TransactionId > & *originalTransactionId*) [virtual]

6.398.2.85 virtual void activemq::commands::Message::setPersistent (bool *persistent*) [virtual]

6.398.2.86 virtual void activemq::commands::Message::setPriority (unsigned char *priority*) [virtual]

6.398.2.87 virtual void activemq::commands::Message::setProducerId (const Pointer< ProducerId > & *producerId*) [virtual]

6.398.2.88 void activemq::commands::Message::setReadOnlyBody (bool *value*) [inline]

Set the Read Only State of the **Message** (p. 2059) Content.

Parameters:

value - true if Content should be read only.

Referenced by activemq::commands::ActiveMQTextMessage::clone(), activemq::commands::ActiveMQStreamMessage::clone(), activemq::commands::ActiveMQObjectMessage::clone(), activemq::commands::ActiveMQMessage::clone(), activemq::commands::ActiveMQMapMessage::clone(), activemq::commands::ActiveMQBytesMessage::clone(), and activemq::commands::ActiveMQBlobMessage::clone().

6.398.2.89 void activemq::commands::Message::setReadOnlyProperties (bool *value*) [inline]

Set the Read Only State of the **Message** (p. 2059) Properties.

Parameters:

value - true if Properties should be read only.

Referenced by activemq::commands::ActiveMQTextMessage::clone(), activemq::commands::ActiveMQStreamMessage::clone(), activemq::commands::ActiveMQObjectMessage::clone(), activemq::commands::ActiveMQMessage::clone(), activemq::commands::ActiveMQMapMessage::clone(), activemq::commands::ActiveMQBytesMessage::clone(), and activemq::commands::ActiveMQBlobMessage::clone().

6.398.2.90 virtual void activemq::commands::Message::setRecievedByDFBridge (bool *recievedByDFBridge*) [virtual]

6.398.2.91 virtual void activemq::commands::Message::setRedeliveryCounter (int *redeliveryCounter*) [virtual]

6.398.2.92 virtual void activemq::commands::Message::setReplyTo (const Pointer< ActiveMQDestination > & *replyTo*) [virtual]

6.398.2.93 virtual void activemq::commands::Message::setTargetConsumerId (const Pointer< ConsumerId > & *targetConsumerId*) [virtual]

6.398.2.94 virtual void activemq::commands::Message::setTimestamp (long long *timestamp*) [virtual]

6.398.2.95 virtual void activemq::commands::Message::setTransactionId (const Pointer< TransactionId > & *transactionId*) [virtual]

6.398.2.96 virtual void activemq::commands::Message::setType (const std::string & *type*) [virtual]

6.398.2.97 virtual void activemq::commands::Message::setUserID (const std::string & *userID*) [virtual]

6.398.2.98 virtual std::string activemq::commands::Message::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

Reimplemented in **activemq::commands::ActiveMQBlobMessage** (p. 207), **activemq::commands::ActiveMQBytesMessage** (p. 223), **activemq::commands::ActiveMQMapMessage** (p. 353), **activemq::commands::ActiveMQMessage** (p. 361), **activemq::commands::ActiveMQObjectMessage** (p. 382), **activemq::commands::ActiveMQStreamMessage** (p. 478), and **activemq::commands::ActiveMQTextMessage** (p. 516).

6.398.2.99 virtual Pointer<Command> activemq::commands::Message::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.398.3 Field Documentation

6.398.3.1 long long activemq::commands::Message::arrival [protected]

6.398.3.2 long long activemq::commands::Message::brokerInTime [protected]

6.398.3.3 long long activemq::commands::Message::brokerOutTime [protected]

6.398.3.4 std::vector< decaf::lang::Pointer<BrokerId> > activemq::commands::Message::brokerPath [protected]

6.398.3.5 std::vector< decaf::lang::Pointer<BrokerId> > activemq::commands::Message::cluster [protected]

6.398.3.6 bool activemq::commands::Message::compressed [protected]

6.398.3.7 core::ActiveMQConnection* activemq::commands::Message::connection [protected]

6.398.3.8 std::vector<unsigned char> activemq::commands::Message::content [protected]

6.398.3.9 std::string activemq::commands::Message::correlationId [protected]

6.398.3.10 Pointer<DataStructure> activemq::commands::Message::dataStructure [protected]

6.398.3.11 const unsigned int activemq::commands::Message::DEFAULT_MESSAGE_SIZE = 1024 [static, protected]

6.398.3.12 Pointer<ActiveMQDestination> activemq::commands::Message::destination [protected]

6.398.3.13 bool activemq::commands::Message::droppable [protected]

6.398.3.14 long long activemq::commands::Message::expiration [protected]

6.398.3.15 std::string activemq::commands::Message::groupID [protected]

6.398.3.16 int activemq::commands::Message::groupSequence [protected]

6.398.3.17 const unsigned char activemq::commands::Message::ID_MESSAGE = 0 [static]

6.398.3.18 std::vector<unsigned char> activemq::commands::Message::marshalledProperties [protected]

6.398.3.19 Pointer<MessageId> activemq::commands::Message::messageId [protected]

6.398.3.20 Pointer<ActiveMQDestination> activemq::commands::Message::originalDestination [protected]

6.398.3.21 Pointer<TransactionId> activemq::commands::Message::originalTransactionId [protected]

6.398.3.22 bool activemq::commands::Message::persistent [protected]

6.398.3.23 unsigned char activemq::commands::Message::priority [protected]

- src/main/activemq/commands/**Message.h**

6.399 cms::Message Class Reference

Root of all messages.

`#include <src/main/cms/Message.h>`Inheritance diagram for cms::Message:

Public Types

- enum **ValueType** {

  NULL_TYPE = 0, **BOOLEAN_TYPE** = 1, **BYTE_TYPE** = 2, **CHAR_TYPE** = 3,

  SHORT_TYPE = 4, **INTEGER_TYPE** = 5, **LONG_TYPE** = 6, **DOUBLE_TYPE** = 7,

  FLOAT_TYPE = 8, **STRING_TYPE** = 9, **BYTE_ARRAY_TYPE** = 10, **UNKNOWN_TYPE** = 11 }

  *Defines the Type Identifiers used to identify the type contained within a specific **Message** (p. 2077) property or **MapMessage** (p. 2011) keyed value.*

Public Member Functions

- virtual ~**Message** ()
- virtual **Message** * **clone** () const =0

  Clone this message exactly, returns a new instance that the caller is required to delete.

- virtual void **acknowledge** () const =0

  Acknowledges all consumed messages of the session of this consumed message.

- virtual void **clearBody** ()=0

  Clears out the body of the message.

- virtual void **clearProperties** ()=0

  Clears out the message body.

- virtual std::vector< std::string > **getPropertyNames** () const =0

  Retrieves the property names.

- virtual bool **propertyExists** (const std::string &name) const =0

  Indicates whether or not a given property exists.

- virtual **ValueType** **getPropertyValueType** (const std::string &name) const =0

  Returns the value type for the given property key.

- virtual bool **getBooleanProperty** (const std::string &name) const =0

  Gets a boolean property.

- virtual unsigned char **getByteProperty** (const std::string &name) const =0

Gets a byte property.

- virtual double **getDoubleProperty** (const std::string &name) const =0
  Gets a double property.
- virtual float **getFloatProperty** (const std::string &name) const =0
  Gets a float property.
- virtual int **getIntProperty** (const std::string &name) const =0
  Gets a int property.
- virtual long long **getLongProperty** (const std::string &name) const =0
  Gets a long property.
- virtual short **getShortProperty** (const std::string &name) const =0
  Gets a short property.
- virtual std::string **getStringProperty** (const std::string &name) const =0
  Gets a string property.
- virtual void **setBooleanProperty** (const std::string &name, bool value)=0
  Sets a boolean property.
- virtual void **setByteProperty** (const std::string &name, unsigned char value)=0
  Sets a byte property.
- virtual void **setDoubleProperty** (const std::string &name, double value)=0
  Sets a double property.
- virtual void **setFloatProperty** (const std::string &name, float value)=0
  Sets a float property.
- virtual void **setIntProperty** (const std::string &name, int value)=0
  Sets a int property.
- virtual void **setLongProperty** (const std::string &name, long long value)=0
  Sets a long property.
- virtual void **setShortProperty** (const std::string &name, short value)=0
  Sets a short property.
- virtual void **setStringProperty** (const std::string &name, const std::string &value)=0
  Sets a string property.
- virtual std::string **getCMSCorrelationID** () const =0
  Gets the correlation ID for the message.
- virtual void **setCMSCorrelationID** (const std::string &correlationId)=0
  Sets the correlation ID for the message.

- virtual int **getCMSDeliveryMode** () const =0

  *Gets the **DeliveryMode** (p. 1358) for this message.*

- virtual void **setCMSDeliveryMode** (int mode)=0

  *Sets the **DeliveryMode** (p. 1358) for this message.*

- virtual const **Destination** * **getCMSDestination** () const =0

  *Gets the **Destination** (p. 1371) object for this message.*

- virtual void **setCMSDestination** (const **Destination** *destination)=0

  *Sets the **Destination** (p. 1371) object for this message.*

- virtual long long **getCMSExpiration** () const =0

  Gets the message's expiration value.

- virtual void **setCMSExpiration** (long long expireTime)=0

  Sets the message's expiration value.

- virtual std::string **getCMSMessageID** () const =0

  The CMSMessageID header field contains a value that uniquely identifies each message sent by a provider.

- virtual void **setCMSMessageID** (const std::string &id)=0

  Sets the message ID.

- virtual int **getCMSPriority** () const =0

  Gets the message priority level.

- virtual void **setCMSPriority** (int priority)=0

  Sets the Priority Value for this message.

- virtual bool **getCMSRedelivered** () const =0

  Gets an indication of whether this message is being redelivered.

- virtual void **setCMSRedelivered** (bool redelivered)=0

  Specifies whether this message is being redelivered.

- virtual const **cms::Destination** * **getCMSReplyTo** () const =0

  *Gets the **Destination** (p. 1371) object to which a reply to this message should be sent.*

- virtual void **setCMSReplyTo** (const **cms::Destination** *destination)=0

  *Sets the **Destination** (p. 1371) object to which a reply to this message should be sent.*

- virtual long long **getCMSTimestamp** () const =0

  Gets the message timestamp.

- virtual void **setCMSTimestamp** (long long timeStamp)=0

  Sets the message timestamp.

- virtual std::string **getCMSType** () const =0

Gets the message type identifier supplied by the client when the message was sent.

- virtual void **setCMSType** (const std::string &type)=0

  Sets the message type.

Static Public Attributes

- static const int **DEFAULT_DELIVERY_MODE**

  The Default delivery mode for ***Message*** *(p. 2077) Producers is PERSISTENT.*

- static const int **DEFAULT_MSG_PRIORITY**

  The Default priority assigned to a ***Message*** *(p. 2077) is 4.*

- static const long long **DEFAULT_TIME_TO_LIVE**

  The Default Time to Live for a ***Message*** *(p. 2077) Producer is unlimited, the message will never expire.*

6.399.1 Detailed Description

Root of all messages. As in JMS, a message is comprised of 3 parts: CMS-specific headers, user-defined properties, and the body.

Message (p. 2077) Bodies

The CMS API defines four types of message bodies, each type is contained within its own **Message** (p. 2077) Interface definition.

- Stream - A **StreamMessage** (p. 2907) object's message body contains a stream of primitive values in the C++ language. It is filled and read sequentially. Unlike the **BytesMessage** (p. 851) type the values written to a **StreamMessage** (p. 2907) retain information on their type and rules for type conversion are enforced when reading back the values from the **Message** (p. 2077) Body.
- Map - A **MapMessage** (p. 2011) object's message body contains a set of name-value pairs, where names are std::string objects, and values are C++ primitives. The entries can be accessed sequentially or randomly by name. The **MapMessage** (p. 2011) makes no garuntee on the order of the elements within the **Message** (p. 2077) body.
- Text - A **TextMessage** (p. 2998) object's message body contains a std::string object. This message type can be used to transport plain-text messages, and XML messages.
- Bytes - A **BytesMessage** (p. 851) object's message body contains a stream of uninterpreted bytes. This message type is for literally encoding a body to match an existing message format. In many cases, it is possible to use one of the other body types, which are easier to use.

Message (p. 2077) Properties

Message (p. 2077) properties support the following conversion table. The marked cases must be supported. The unmarked cases must throw a **CMSException** (p. 973). The String-to-primitive conversions may throw a runtime exception if the primitive's valueOf method does not accept the String as a valid representation of the primitive.

A value written as the row type can be read as the column type.

	boolean	byte	short	int	long	float	double	String
boolean	X							X
byte		X	X	X	X			X
short			X	X	X			X
int				X	X			X
long					X			X
float						X	X	X
double							X	X
String	X	X	X	X	X	X	X	X

When a **Message** (p. 2077) is delivered its properties are considered to be in a read-only mode and cannot be changed. Attempting to change the value of a delivered Message's properties will result in a **CMSException** (p. 973) being thrown.

See also:

JMS API

Since:

1.0

6.399.2 Member Enumeration Documentation

6.399.2.1 enum cms::Message::ValueType

Defines the Type Identifiers used to identify the type contained within a specific **Message** (p. 2077) property or **MapMessage** (p. 2011) keyed value. CMS Providers can store other types in their internal representations, which should map to the UNKNOWN_TYPE from the CMS API.

Enumerator:

NULL_TYPE

BOOLEAN_TYPE

BYTE_TYPE

CHAR_TYPE

SHORT_TYPE

INTEGER_TYPE

LONG_TYPE

DOUBLE_TYPE

FLOAT_TYPE

STRING_TYPE

BYTE_ARRAY_TYPE

UNKNOWN_TYPE

6.399.3 Constructor & Destructor Documentation

6.399.3.1 virtual cms::Message::~Message () [virtual]

6.399.4 Member Function Documentation

6.399.4.1 virtual void cms::Message::acknowledge () const [pure virtual]

Acknowledges all consumed messages of the session of this consumed message. All consumed CMS messages support the acknowledge method for use when a client has specified that its CMS session's consumed messages are to be explicitly acknowledged. By invoking acknowledge on a consumed message, a client acknowledges all messages consumed by the session that the message was delivered to.

Calls to acknowledge are ignored for both transacted sessions and sessions specified to use implicit acknowledgment modes.

A client may individually acknowledge each message as it is consumed, or it may choose to acknowledge messages as an application-defined group (which is done by calling acknowledge on the last received message of the group, thereby acknowledging all messages consumed by the session.)

Messages that have been received but not acknowledged may be redelivered.

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

IllegalStateException *(*p. ***1645****)* - if this method is called on a closed session.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 371), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 371), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 371), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 371), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 371), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 371).

6.399.4.2 virtual void cms::Message::clearBody () [pure virtual]

Clears out the body of the message. This does not clear the headers or properties.

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQBytesMessage** (p. 215), **activemq::commands::ActiveMQMapMessage** (p. 344), **activemq::commands::ActiveMQStreamMessage** (p. 471), **activemq::commands::ActiveMQTextMessage** (p. 513), **activemq::commands::ActiveMQMessageTemplate** **cms::BytesMessage** > (p. 371), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 371), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 371), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 371), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 371), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 371).

6.399.4.3 virtual void cms::Message::clearProperties () [pure virtual]

Clears out the message body. Clearing a message's body does not clear its header values or property entries.

If this message body was read-only, calling this method leaves the message body in the same state as an empty body in a newly created message.

Exceptions:

CMSException *(*p. *973)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 372), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 372), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 372), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 372), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 372), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 372).

6.399.4.4 virtual Message* cms::Message::clone () const [pure virtual]

Clone this message exactly, returns a new instance that the caller is required to delete.

Returns:

new copy of this message

Implemented in **activemq::commands::ActiveMQBlobMessage** (p. 205), **activemq::commands::ActiveMQBytesMessage** (p. 216), **activemq::commands::ActiveMQMapMessage** (p. 344), **activemq::commands::ActiveMQMessage** (p. 359), **activemq::commands::ActiveMQObjectMessage** (p. 380), **activemq::commands::ActiveMQStreamMessage** (p. 471), **activemq::commands::ActiveMQTextMessage** (p. 513), and **cms::BytesMessage** (p. 853).

6.399.4.5 virtual bool cms::Message::getBooleanProperty (const std::string & *name*) const [pure virtual]

Gets a boolean property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

Exceptions:

CMSException *(*p. *973)* if the property does not exist.

MessageFormatException *(*p. *2159)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage>** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage>** (p. 373).

6.399.4.6 virtual unsigned char cms::Message::getByteProperty (const std::string & *name*) const [pure virtual]

Gets a byte property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

Exceptions:

CMSException (p. ***973***) if the property does not exist.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage>** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage>** (p. 373).

6.399.4.7 virtual std::string cms::Message::getCMSCorrelationID () const [pure virtual]

Gets the correlation ID for the message. This method is used to return correlation ID values that are either provider-specific message IDs or application-specific String values.

Returns:

string representation of the correlation Id

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage>** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage>** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage>** (p. 373).

6.399.4.8 virtual int cms::Message::getCMSDeliveryMode () const [pure virtual]

Gets the **DeliveryMode** (p. 1358) for this message.

Returns:

DeliveryMode (p. 1358) enumerated value.

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage >** (p. 373).

6.399.4.9 virtual const Destination* cms::Message::getCMSDestination () const [pure virtual]

Gets the **Destination** (p. 1371) object for this message. The CMSDestination header field contains the destination to which the message is being sent.

When a message is sent, this field is ignored. After completion of the send or publish method, the field holds the destination specified by the method.

When a message is received, its CMSDestination value must be equivalent to the value assigned when it was sent.

Returns:

Destination (p. 1371) object

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage >** (p. 373).

6.399.4.10 virtual long long cms::Message::getCMSExpiration () const [pure virtual]

Gets the message's expiration value. When a message is sent, the CMSExpiration header field is left unassigned. After completion of the send or publish method, it holds the expiration time of the message. This is the sum of the time-to-live value specified by the client and the GMT at the time of the send or publish.

If the time-to-live is specified as zero, CMSExpiration is set to zero to indicate that the message does not expire.

When a message's expiration time is reached, a provider should discard it. The CMS API does not define any form of notification of message expiration.

Clients should not receive messages that have expired; however, the CMS API does not guarantee that this will not happen.

Returns:

the time the message expires, which is the sum of the time-to-live value specified by the client and the GMT at the time of the send

Exceptions:

CMSException *(p. **973**)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage >** (p. 373).

6.399.4.11 virtual std::string cms::Message::getCMSMessageID () const [pure virtual]

The CMSMessageID header field contains a value that uniquely identifies each message sent by a provider. When a message is sent, CMSMessageID can be ignored. When the send or publish method returns, it contains a provider-assigned value.

A CMSMessageID is a String value that should function as a unique key for identifying messages in a historical repository. The exact scope of uniqueness is provider-defined. It should at least cover all messages for a specific installation of a provider, where an installation is some connected set of message routers.

All CMSMessageID values must start with the prefix 'ID:'. Uniqueness of message ID values across different providers is not required.

Since message IDs take some effort to create and increase a message's size, some CMS providers may be able to optimize message overhead if they are given a hint that the message ID is not used by an application. By calling the **MessageProducer.setDisableMessageID** (p. 2188) method, a CMS client enables this potential optimization for all messages sent by that message producer. If the CMS provider accepts this hint, these messages must have the message ID set to null; if the provider ignores the hint, the message ID must be set to its normal unique value.

Returns:

provider-assigned message id

Exceptions:

CMSException *(p. **973**)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<**

cms::MapMessage > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 373), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 373).

6.399.4.12 virtual int cms::Message::getCMSPriority () const [pure virtual]

Gets the message priority level. The CMS API defines ten levels of priority value, with 0 as the lowest priority and 9 as the highest. In addition, clients should consider priorities 0-4 as gradations of normal priority and priorities 5-9 as gradations of expedited priority.

The CMS API does not require that a provider strictly implement priority ordering of messages; however, it should do its best to deliver expedited messages ahead of normal messages.

Returns:

priority value

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 373), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 373).

6.399.4.13 virtual bool cms::Message::getCMSRedelivered () const [pure virtual]

Gets an indication of whether this message is being redelivered. If a client receives a message with the CMSRedelivered field set, it is likely, but not guaranteed, that this message was delivered earlier but that its receipt was not acknowledged at that time.

Returns:

true if this message is being redelivered

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 373), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 373).

6.399.4.14 virtual const cms::Destination* cms::Message::getCMSReplyTo () const [pure virtual]

Gets the **Destination** (p. 1371) object to which a reply to this message should be sent.

Returns:

Destination (p. 1371) to which to send a response to this message

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage >** (p. 373).

6.399.4.15 virtual long long cms::Message::getCMSTimestamp () const [pure virtual]

Gets the message timestamp. The CMSTimestamp header field contains the time a message was handed off to a provider to be sent. It is not the time the message was actually transmitted, because the actual send may occur later due to transactions or other client-side queuing of messages.

When a message is sent, CMSTimestamp is ignored. When the send or publish method returns, it contains a time value somewhere in the interval between the call and the return. The value is in the format of a normal millis time value in the Java programming language.

Since timestamps take some effort to create and increase a message's size, some CMS providers may be able to optimize message overhead if they are given a hint that the timestamp is not used by an application. By calling the MessageProducer.setDisableMessageTimestamp method, a CMS client enables this potential optimization for all messages sent by that message producer. If the CMS provider accepts this hint, these messages must have the timestamp set to zero; if the provider ignores the hint, the timestamp must be set to its normal value.

Returns:

the message timestamp

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage >** (p. 373).

6.399.4.16 virtual std::string cms::Message::getCMSType () const [pure virtual]

Gets the message type identifier supplied by the client when the message was sent.

Returns:

the message type

See also:

setCMSType (p. 2098)

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 373).

6.399.4.17 virtual double cms::Message::getDoubleProperty (const std::string & *name*) const [pure virtual]

Gets a double property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

Exceptions:

CMSException *(*p. ***973****)* if the property does not exist.

MessageFormatException *(*p. ***2159****)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 373).

6.399.4.18 virtual float cms::Message::getFloatProperty (const std::string & *name*) const [pure virtual]

Gets a float property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

Exceptions:

CMSException *(*p. ***973****)* if the property does not exist.

MessageFormatException *(*p. ***2159****)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 373), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 373).

6.399.4.19 virtual int cms::Message::getIntProperty (const std::string & *name*) const [pure virtual]

Gets a int property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

Exceptions:

CMSException *(*p. ***973****)* if the property does not exist.

MessageFormatException *(*p. ***2159****)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 373), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 373).

6.399.4.20 virtual long long cms::Message::getLongProperty (const std::string & *name*) const [pure virtual]

Gets a long property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

Exceptions:

CMSException *(*p. ***973****)* if the property does not exist.

MessageFormatException *(*p. ***2159****)* - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage >** (p. 373).

6.399.4.21 virtual std::vector<std::string> cms::Message::getPropertyNames () const [pure virtual]

Retrieves the property names.

Returns:

The complete set of property names currently in this message.

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage >** (p. 373).

6.399.4.22 virtual ValueType cms::Message::getPropertyValueType (const std::string & *name*) const [pure virtual]

Returns the value type for the given property key. The CMS provider should translate all internal type identifiers into the CMS Value types returning UNKNOWN_TYPE for any specialized types not directly supported in the CMS API.

Parameters:

name The string property name key used to look up the value type.

Returns:

The ValueType contained in the given property.

Exceptions:

CMSException *(*p. ***973****)* if no property exists that matches the requested key.

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 373).

6.399.4.23 virtual short cms::Message::getShortProperty (const std::string & *name*) const [pure virtual]

Gets a short property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

Exceptions:

CMSException (p. ***973***) if the property does not exist.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 373), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 373).

6.399.4.24 virtual std::string cms::Message::getStringProperty (const std::string & *name*) const [pure virtual]

Gets a string property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

Exceptions:

CMSException (p. ***973***) if the property does not exist.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 373), **activemq::commands::ActiveMQMessageTemplate<**

cms::MapMessage > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 373), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 373), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 373).

6.399.4.25 virtual bool cms::Message::propertyExists (const std::string & *name*) const [pure virtual]

Indicates whether or not a given property exists.

Parameters:

name The name of the property to look up.

Returns:

True if the property exists in this message.

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.26 virtual void cms::Message::setBooleanProperty (const std::string & *name*, bool *value*) [pure virtual]

Sets a boolean property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

Exceptions:

CMSException (p. ***973***) - if the name is an empty string.

MessageNotWriteableException (p. ***2177***) - if properties are read-only

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.27 virtual void cms::Message::setByteProperty (const std::string & *name*, unsigned char *value*) [pure virtual]

Sets a byte property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

Exceptions:

CMSException *(p. 973)* - if the name is an empty string.

MessageNotWriteableException *(p. 2177)* - if properties are read-only

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 375), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 375).

6.399.4.28 virtual void cms::Message::setCMSCorrelationID (const std::string & *correlationId*) [pure virtual]

Sets the correlation ID for the message. A client can use the CMSCorrelationID header field to link one message with another. A typical use is to link a response message with its request message.

CMSCorrelationID can hold one of the following:

- A provider-specific message ID
- An application-specific String
- A provider-native byte[] value

Since each message sent by a CMS provider is assigned a message ID value, it is convenient to link messages via message ID. All message ID values must start with the 'ID:' prefix.

In some cases, an application (made up of several clients) needs to use an application-specific value for linking messages. For instance, an application may use CMSCorrelationID to hold a value referencing some external information. Application-specified values must not start with the 'ID:' prefix; this is reserved for provider-generated message ID values.

If a provider supports the native concept of correlation ID, a CMS client may need to assign specific CMSCorrelationID values to match those expected by clients that do not use the CMS API. A byte[] value is used for this purpose. CMS providers without native correlation ID values are not required to support byte[] values. The use of a byte[] value for CMSCorrelationID is non-portable.

Parameters:

correlationId The message ID of a message being referred to.

Exceptions:

CMSException *(p. 973)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.29 virtual void cms::Message::setCMSDeliveryMode (int *mode*) [pure virtual]

Sets the **DeliveryMode** (p. 1358) for this message. CMS providers set this field when a message is sent. This method can be used to change the value for a message that has been received.

Parameters:

mode **DeliveryMode** (p. 1358) enumerated value.

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.30 virtual void cms::Message::setCMSDestination (const Destination * *destination*) [pure virtual]

Sets the **Destination** (p. 1371) object for this message. CMS providers set this field when a message is sent. This method can be used to change the value for a message that has been received.

Parameters:

destination **Destination** (p. 1371) Object

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.31 virtual void cms::Message::setCMSExpiration (long long *expireTime*) [pure virtual]

Sets the message's expiration value. CMS providers set this field when a message is sent. This method can be used to change the value for a message that has been received.

Parameters:

expireTime the message's expiration time

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.32 virtual void cms::Message::setCMSMessageID (const std::string & *id*) [pure virtual]

Sets the message ID. CMS providers set this field when a message is sent. This method can be used to change the value for a message that has been received.

Parameters:

id the ID of the message

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.33 virtual void cms::Message::setCMSPriority (int *priority*) [pure virtual]

Sets the Priority Value for this message. CMS providers set this field when a message is sent. This method can be used to change the value for a message that has been received.

Parameters:

priority priority value for this message

Exceptions:

CMSException *(*p. ***973)*** - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.34 virtual void cms::Message::setCMSRedelivered (bool *redelivered*) [pure virtual]

Specifies whether this message is being redelivered. This field is set at the time the message is delivered. This method can be used to change the value for a message that has been received.

Parameters:

redelivered boolean redelivered value

Exceptions:

CMSException *(*p. ***973)*** - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.35 virtual void cms::Message::setCMSReplyTo (const cms::Destination * *destination*) [pure virtual]

Sets the **Destination** (p. 1371) object to which a reply to this message should be sent. The CMSReplyTo header field contains the destination where a reply to the current message should be sent. If it is null, no reply is expected. The destination may be either a **Queue** (p. 2499) object or a **Topic** (p. 3080) object.

Messages sent with a null CMSReplyTo value may be a notification of some event, or they may just be some data the sender thinks is of interest.

Messages with a CMSReplyTo value typically expect a response. A response is optional; it is up to the client to decide. These messages are called requests. A message sent in response to a request is called a reply.

In some cases a client may wish to match a request it sent earlier with a reply it has just received. The client can use the CMSCorrelationID header field for this purpose.

Parameters:

destination **Destination** (p. 1371) to which to send a response to this message

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.36 virtual void cms::Message::setCMSTimestamp (long long *timeStamp*) [pure virtual]

Sets the message timestamp. CMS providers set this field when a message is sent. This method can be used to change the value for a message that has been received.

Parameters:

timeStamp integer time stamp value

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate<** **cms::BytesMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::MapMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::Message** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::StreamMessage** > (p. 375), **activemq::commands::ActiveMQMessageTemplate<** **cms::TextMessage** > (p. 375), and **activemq::commands::ActiveMQMessageTemplate<** **cms::ObjectMessage** > (p. 375).

6.399.4.37 virtual void cms::Message::setCMSType (const std::string & *type*) [pure virtual]

Sets the message type. Some CMS providers use a message repository that contains the definitions of messages sent by applications. The CMSType header field may reference a message's definition in the provider's repository.

The CMS API does not define a standard message definition repository, nor does it define a naming policy for the definitions it contains.

Some messaging systems require that a message type definition for each application message be created and that each message specify its type. In order to work with such CMS providers, CMS clients should assign a value to CMSType, whether the application makes use of it or not. This ensures that the field is properly set for those providers that require it.

To ensure portability, CMS clients should use symbolic values for CMSType that can be configured at installation time to the values defined in the current provider's message repository. If string literals are used, they may not be valid type names for some CMS providers.

Parameters:

type the message type

See also:

getCMSType (p. 2089)

Exceptions:

CMSException *(p. 973)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 375), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 375).

6.399.4.38 virtual void cms::Message::setDoubleProperty (const std::string & *name*, double *value*) [pure virtual]

Sets a double property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

Exceptions:

CMSException *(p. 973)* - if the name is an empty string.

MessageNotWriteableException *(p. 2177)* - if properties are read-only

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 375), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 375).

6.399.4.39 virtual void cms::Message::setFloatProperty (const std::string & *name*, float *value*) [pure virtual]

Sets a float property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

Exceptions:

CMSException *(p. 973)* - if the name is an empty string.

MessageNotWriteableException *(p. 2177)* - if properties are read-only

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 375), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 375).

6.399.4.40 virtual void cms::Message::setIntProperty (const std::string & *name*, int *value*) [pure virtual]

Sets a int property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

Exceptions:

CMSException (p. ***973***) - if the name is an empty string.

MessageNotWriteableException (p. ***2177***) - if properties are read-only

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 375), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 375).

6.399.4.41 virtual void cms::Message::setLongProperty (const std::string & *name*, long long *value*) [pure virtual]

Sets a long property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

Exceptions:

CMSException (p. ***973***) - if the name is an empty string.

MessageNotWriteableException (p. ***2177***) - if properties are read-only

Implemented in **activemq::commands::ActiveMQMessageTemplate< cms::BytesMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::MapMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::Message >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::StreamMessage >** (p. 375), **activemq::commands::ActiveMQMessageTemplate< cms::TextMessage >** (p. 375), and **activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >** (p. 375).

6.399.4.42 virtual void cms::Message::setShortProperty (const std::string & *name*, short *value*) [pure virtual]

Sets a short property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

Exceptions:

CMSException (p. ***973***) - if the name is an empty string.

MessageNotWriteableException (p. ***2177***) - if properties are read-only

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage>** (p. 375), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage>** (p. 375), **activemq::commands::ActiveMQMessageTemplate<cms::Message>** (p. 375), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage>** (p. 375), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage>** (p. 375), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage>** (p. 375).

6.399.4.43 virtual void cms::Message::setStringProperty (const std::string & *name*, const std::string & *value*) [pure virtual]

Sets a string property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

Exceptions:

CMSException (p. ***973***) - if the name is an empty string.

MessageNotWriteableException (p. ***2177***) - if properties are read-only

Implemented in **activemq::commands::ActiveMQMessageTemplate<cms::BytesMessage>** (p. 375), **activemq::commands::ActiveMQMessageTemplate<cms::MapMessage>** (p. 375), **activemq::commands::ActiveMQMessageTemplate<cms::Message>** (p. 375), **activemq::commands::ActiveMQMessageTemplate<cms::StreamMessage>** (p. 375), **activemq::commands::ActiveMQMessageTemplate<cms::TextMessage>** (p. 375), and **activemq::commands::ActiveMQMessageTemplate<cms::ObjectMessage>** (p. 375).

6.399.5 Field Documentation

6.399.5.1 const int cms::Message::DEFAULT_DELIVERY_MODE [static]

The Default delivery mode for **Message** (p. 2077) Producers is PERSISTENT.

6.399.5.2 const int cms::Message::DEFAULT_MSG_PRIORITY [static]

The Default priority assigned to a **Message** (p. 2077) is 4.

6.399.5.3 const long long cms::Message::DEFAULT_TIME_TO_LIVE [static]

The Default Time to Live for a **Message** (p. 2077) Producer is unlimited, the message will never expire.

The documentation for this class was generated from the following file:

- src/main/cms/**Message.h**

6.400 activemq::commands::MessageAck Class Reference

`#include <src/main/activemq/commands/MessageAck.h>`Inheritance diagram for activemq::commands::MessageAck:

Public Member Functions

- **MessageAck** ()
- **MessageAck** (const **Pointer**< **Message** > &message, int **ackType**, int **messageCount**)
- **MessageAck** (const **Pointer**< **MessageDispatch** > &dispatch, int **ackType**, int **messageCount**)
- virtual ~**MessageAck** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **MessageAck** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual const **Pointer**< **TransactionId** > & **getTransactionId** () const
- virtual **Pointer**< **TransactionId** > & **getTransactionId** ()
- virtual void **setTransactionId** (const **Pointer**< **TransactionId** > &**transactionId**)
- virtual const **Pointer**< **ConsumerId** > & **getConsumerId** () const
- virtual **Pointer**< **ConsumerId** > & **getConsumerId** ()
- virtual void **setConsumerId** (const **Pointer**< **ConsumerId** > &**consumerId**)
- virtual unsigned char **getAckType** () const
- virtual void **setAckType** (unsigned char **ackType**)
- virtual const **Pointer**< **MessageId** > & **getFirstMessageId** () const
- virtual **Pointer**< **MessageId** > & **getFirstMessageId** ()
- virtual void **setFirstMessageId** (const **Pointer**< **MessageId** > &**firstMessageId**)
- virtual const **Pointer**< **MessageId** > & **getLastMessageId** () const
- virtual **Pointer**< **MessageId** > & **getLastMessageId** ()
- virtual void **setLastMessageId** (const **Pointer**< **MessageId** > &**lastMessageId**)
- virtual int **getMessageCount** () const
- virtual void **setMessageCount** (int **messageCount**)
- virtual const **Pointer**< **BrokerError** > & **getPoisonCause** () const
- virtual **Pointer**< **BrokerError** > & **getPoisonCause** ()

- virtual void **setPoisonCause** (const **Pointer< BrokerError >** &**poisonCause**)
- virtual bool **isMessageAck** () const
- virtual **Pointer< Command > visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_MESSAGEACK** = 22

Protected Attributes

- **Pointer< ActiveMQDestination > destination**
- **Pointer< TransactionId > transactionId**
- **Pointer< ConsumerId > consumerId**
- unsigned char **ackType**
- **Pointer< MessageId > firstMessageId**
- **Pointer< MessageId > lastMessageId**
- int **messageCount**
- **Pointer< BrokerError > poisonCause**

6.400.1 Constructor & Destructor Documentation

6.400.1.1 activemq::commands::MessageAck::MessageAck ()

6.400.1.2 activemq::commands::MessageAck::MessageAck (const Pointer< Message > & *message*, int *ackType*, int *messageCount*)

6.400.1.3 activemq::commands::MessageAck::MessageAck (const Pointer< MessageDispatch > & *dispatch*, int *ackType*, int *messageCount*)

6.400.1.4 virtual activemq::commands::MessageAck::~MessageAck () [virtual]

6.400.2 Member Function Documentation

6.400.2.1 virtual MessageAck* activemq::commands::MessageAck::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.400.2.2 virtual void activemq::commands::MessageAck::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.400.2.3 virtual bool activemq::commands::MessageAck::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.400.2.4 virtual unsigned char activemq::commands::MessageAck::getAckType () const [virtual]

6.400.2.5 virtual Pointer<ConsumerId>& activemq::commands::MessageAck::getConsumerId () [virtual]

6.400.2.6 virtual const Pointer<ConsumerId>& activemq::commands::MessageAck::getConsumerId () const [virtual]

6.400.2.7 virtual unsigned char activemq::commands::MessageAck::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.400.2.8 virtual Pointer<ActiveMQDestination>& activemq::commands::MessageAck::getDestination () [virtual]

6.400.2.9 virtual const Pointer<ActiveMQDestination>& activemq::commands::MessageAck::getDestination () const [virtual]

6.400.2.10 virtual Pointer<MessageId>& activemq::commands::MessageAck::getFirstMessageId () [virtual]

6.400.2.11 virtual const Pointer<MessageId>& activemq::commands::MessageAck::getFirstMessageId () const [virtual]

6.400.2.12 virtual Pointer<MessageId>& activemq::commands::MessageAck::getLastMessageId () [virtual]

6.400.2.13 virtual const Pointer<MessageId>& activemq::commands::MessageAck::getLastMessageId () const [virtual]

6.400.2.14 virtual int activemq::commands::MessageAck::getMessageCount () const [virtual]

6.400.2.15 virtual Pointer<BrokerError>& activemq::commands::MessageAck::getPoisonCause () [virtual]

6.400.2.16 virtual const Pointer<BrokerError>& activemq::commands::MessageAck::getPoisonCause () const [virtual]

6.400.2.17 virtual Pointer<TransactionId>& activemq::commands::MessageAck::getTransactionId () [virtual]

6.400.2.18 virtual const Pointer<TransactionId>& activemq::commands::MessageAck::getTransactionId () const [virtual]

6.400.2.19 virtual bool activemq::commands::MessageAck::isMessageAck () const [inline, virtual]

Returns:

an answer of true to the **isMessageAck()** (p. 2106) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 632).

6.400.2.20 virtual void activemq::commands::MessageAck::setAckType (unsigned char *ackType*) [virtual]

6.400.2.21 virtual void activemq::commands::MessageAck::setConsumerId (const Pointer< ConsumerId > & *consumerId*) [virtual]

6.400.2.22 virtual void activemq::commands::MessageAck::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.400.2.23 virtual void activemq::commands::MessageAck::setFirstMessageId (const Pointer< MessageId > & *firstMessageId*) [virtual]

6.400.2.24 virtual void activemq::commands::MessageAck::setLastMessageId (const Pointer< MessageId > & *lastMessageId*) [virtual]

6.400.2.25 virtual void activemq::commands::MessageAck::setMessageCount (int *messageCount*) [virtual]

6.400.2.26 virtual void activemq::commands::MessageAck::setPoisonCause (const Pointer< BrokerError > & *poisonCause*) [virtual]

6.400.2.27 virtual void activemq::commands::MessageAck::setTransactionId (const Pointer< TransactionId > & *transactionId*) [virtual]

6.400.2.28 virtual std::string activemq::commands::MessageAck::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.400.2.29 virtual Pointer<Command> activemq::commands::MessageAck::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.400.3 Field Documentation

6.400.3.1 unsigned char activemq::commands::MessageAck::ackType [protected]

6.400.3.2 Pointer<ConsumerId> activemq::commands::MessageAck::consumerId [protected]

6.400.3.3 Pointer<ActiveMQDestination> activemq::commands::MessageAck::destination [protected]

6.400.3.4 Pointer<MessageId> activemq::commands::MessageAck::firstMessageId [protected]

6.400.3.5 const unsigned char activemq::commands::MessageAck::ID_MESSAGEACK = 22 [static]

6.400.3.6 Pointer<MessageId> activemq::commands::MessageAck::lastMessageId [protected]

6.400.3.7 int activemq::commands::MessageAck::messageCount [protected]

6.400.3.8 Pointer<BrokerError> activemq::commands::MessageAck::poisonCause [protected]

6.400.3.9 Pointer<TransactionId> activemq::commands::MessageAck::transactionId [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**MessageAck.h**

6.401 activemq::wireformat::openwire::marshal::generated::MessageAckM Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **MessageAckMarshaller** (p. 2109).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/MessageAckMarshaller.h>`Inherita
diagram for activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller:

Public Member Functions

- **MessageAckMarshaller** ()
- virtual ~**MessageAckMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.401.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **MessageAckMarshaller** (p. 2109). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.401.2 Constructor & Destructor Documentation

6.401.2.1 activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller::MessageAck
() [inline]

6.401.2.2 virtual activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller::~MessageAc
() [inline, virtual]

6.401.3 Member Function Documentation

6.401.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.401.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller::getDataStructu () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.401.3.3 virtual void activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.401.3.4 virtual void activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller::looseUnmarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.401.3.5 virtual int activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.401.3.6 virtual void activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.401.3.7 virtual void activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller::tightUnmarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**MessageAckMarshaller.h**

6.402 cms::MessageAvailableListener Class Reference

A listener interface similar to the **MessageListener** (p. 2170) interface.

`#include <src/main/cms/MessageAvailableListener.h>`

Public Member Functions

- virtual ~**MessageAvailableListener** ()
- virtual void **onMessageAvailable** (**cms::MessageConsumer** *consumer)=0

  *Indicates that a new **Message** (p. 2077) has become available for consumption from the provided consumer, a call to receiveNoWait should return the message immediately.*

6.402.1 Detailed Description

A listener interface similar to the **MessageListener** (p. 2170) interface. This listener is notified by its associated **MessageConsumer** (p. 2114) that a new **Message** (p. 2077) is available for processing when the consumer is in sync consumption mode. A consumer with a registered **MessageListener** (p. 2170) will not use this listener.

6.402.2 Constructor & Destructor Documentation

6.402.2.1 virtual cms::MessageAvailableListener::~MessageAvailableListener () [virtual]

6.402.3 Member Function Documentation

6.402.3.1 virtual void cms::MessageAvailableListener::onMessageAvailable (**cms::MessageConsumer** * *consumer*) [pure virtual]

Indicates that a new **Message** (p. 2077) has become available for consumption from the provided consumer, a call to receiveNoWait should return the message immediately.

Parameters:

consumer The consumer that now has a message queued for consumption.

The documentation for this class was generated from the following file:

- src/main/cms/**MessageAvailableListener.h**

6.403 cms::MessageConsumer Class Reference

A client uses a `MessageConsumer` (p. 2114) to received messages from a destination.

`#include <src/main/cms/MessageConsumer.h>`Inheritance diagram for cms::MessageConsumer:

Public Member Functions

- virtual ~**MessageConsumer** ()
- virtual **Message** * **receive** ()=0

  *Synchronously Receive a **Message** (p. 2077).*

- virtual **Message** * **receive** (int millisecs)=0

  *Synchronously Receive a **Message** (p. 2077), time out after defined interval.*

- virtual **Message** * **receiveNoWait** ()=0

  *Receive a **Message** (p. 2077), does not wait if there isn't a new message to read, returns NULL if nothing read.*

- virtual void **setMessageListener** (**MessageListener** *listener)=0

  *Sets the **MessageListener** (p. 2170) that this class will send notifs on.*

- virtual **MessageListener** * **getMessageListener** () const =0

  *Gets the **MessageListener** (p. 2170) that this class will send mew **Message** (p. 2077) notification events to.*

- virtual std::string **getMessageSelector** () const =0

  Gets this message consumer's message selector expression.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)=0

  *Set an **MessageTransformer** (p. 2206) instance that is applied to all **cms::Message** (p. 2077) objects before they are dispatched to client **code** (p. 999).*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const =0

  *Gets the currently configured **MessageTransformer** (p. 2206) for this **MessageConsumer** (p. 2114).*

- virtual void **setMessageAvailableListener** (**cms::MessageAvailableListener** *listener)=0

  *Sets the **MessageAvailableListener** (p. 2113) that this class will send events to if the consumer is in synchronous consumption mode and a new **Message** (p. 2077) has arrived.*

- virtual **cms::MessageAvailableListener** * **getMessageAvailableListener** () const =0

  *Gets the **MessageAvailableListener** (p. 2113) that this class will send mew **Message** (p. 2077) notification events to.*

6.403.1 Detailed Description

A client uses a `MessageConsumer` (p. 2114) to received messages from a destination. A client may either synchronously receive a message consumer's messages or have the consumer asynchronously deliver them as they arrive.

For synchronous receipt, a client can request the next message from a message consumer using one of its `receive` methods. There are several variations of `receive` that allow a client to poll or wait for the next message.

For asynchronous delivery, a client can register a `MessageListener` (p. 2170) object with a message consumer. As messages arrive at the message consumer, it delivers them by calling the `MessageListener` (p. 2170)'s `onMessage` method.

When the MessageConsumer's close method is called the method can block while an asynchronous message delivery is in progress or until a `receive` operation completes. A blocked consumer in a `receive` call will return a Null when the close method is called.

While the **MessageConsumer** (p. 2114) implements the **Startable** (p. 2836) and **Stoppable** (p. 2903) interfaces it is not required to implement these methods and can throw an UnsupportedOperation exception if they are not available for the given CMS provider.

See also:

MessageListener (p. 2170)

Since:

1.0

6.403.2 Constructor & Destructor Documentation

6.403.2.1 virtual cms::MessageConsumer::~MessageConsumer () [virtual]

6.403.3 Member Function Documentation

6.403.3.1 virtual cms::MessageAvailableListener* cms::MessageConsumer::getMessageAvailableListener () const [pure virtual]

Gets the **MessageAvailableListener** (p. 2113) that this class will send mew **Message** (p. 2077) notification events to.

Returns:

The listener of message events received by this consumer.

Exceptions:

CMSException *(p. 973)* - If an internal error occurs.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 866), **activemq::core::ActiveMQConsumer** (p. 298), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 310).

Referenced by activemq::cmsutil::CachedConsumer::getMessageAvailableListener().

6.403.3.2 virtual MessageListener* cms::MessageConsumer::getMessageListener () const [pure virtual]

Gets the **MessageListener** (p. 2170) that this class will send mew **Message** (p. 2077) notification events to.

Returns:

The listener of messages received by this consumer

Exceptions:

CMSException *(p. 973)* - If an internal error occurs.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 866), **activemq::core::ActiveMQConsumer** (p. 298), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 311).

Referenced by activemq::cmsutil::CachedConsumer::getMessageListener().

6.403.3.3 virtual std::string cms::MessageConsumer::getMessageSelector () const [pure virtual]

Gets this message consumer's message selector expression.

Returns:

This Consumer's selector expression or "".

Exceptions:

CMSException *(p. 973)* - If an internal error occurs.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 867), **activemq::core::ActiveMQConsumer** (p. 298), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 311).

Referenced by activemq::cmsutil::CachedConsumer::getMessageSelector().

6.403.3.4 virtual cms::MessageTransformer* cms::MessageConsumer::getMessageTransformer () const [pure virtual]

Gets the currently configured **MessageTransformer** (p. 2206) for this **MessageConsumer** (p. 2114).

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implemented in **activemq::cmsutil::CachedConsumer** (p. 867), **activemq::core::ActiveMQConsumer** (p. 298), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 311).

Referenced by activemq::cmsutil::CachedConsumer::getMessageTransformer().

6.403.3.5 virtual Message* cms::MessageConsumer::receive (int *millisecs*) [pure virtual]

Synchronously Receive a **Message** (p. 2077), time out after defined interval. Returns null if nothing read.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException (p. ***973***) - If an internal error occurs.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 867), **activemq::core::ActiveMQConsumer** (p. 299), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 313).

6.403.3.6 virtual Message* cms::MessageConsumer::receive () [pure virtual]

Synchronously Receive a **Message** (p. 2077).

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException (p. ***973***) - If an internal error occurs.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 868), **activemq::core::ActiveMQConsumer** (p. 300), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 313).

Referenced by activemq::cmsutil::CachedConsumer::receive().

6.403.3.7 virtual Message* cms::MessageConsumer::receiveNoWait () [pure virtual]

Receive a **Message** (p. 2077), does not wait if there isn't a new message to read, returns NULL if nothing read.

Returns:

new message which the caller owns and must delete.

Exceptions:

CMSException (p. ***973***) - If an internal error occurs.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 868), **activemq::core::ActiveMQConsumer** (p. 300), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 313).

Referenced by activemq::cmsutil::CachedConsumer::receiveNoWait().

6.403.3.8 virtual void cms::MessageConsumer::setMessageAvailableListener (cms::MessageAvailableListener * *listener*) [pure virtual]

Sets the **MessageAvailableListener** (p. 2113) that this class will send events to if the consumer is in synchronous consumption mode and a new **Message** (p. 2077) has arrived.

Parameters:

listener The listener of new message events fired by this consumer.

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 868), **activemq::core::ActiveMQConsumer** (p. 300), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 315).

Referenced by activemq::cmsutil::CachedConsumer::setMessageAvailableListener().

6.403.3.9 virtual void cms::MessageConsumer::setMessageListener (MessageListener * *listener*) [pure virtual]

Sets the **MessageListener** (p. 2170) that this class will send notifs on.

Parameters:

listener The listener of messages received by this consumer.

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 869), **activemq::core::ActiveMQConsumer** (p. 300), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 315).

Referenced by activemq::cmsutil::CachedConsumer::setMessageListener().

6.403.3.10 virtual void cms::MessageConsumer::setMessageTransformer (cms::MessageTransformer * *transformer*) [pure virtual]

Set an **MessageTransformer** (p. 2206) instance that is applied to all **cms::Message** (p. 2077) objects before they are dispatched to client **code** (p. 999). The CMS **code** (p. 999) never takes ownership of the **MessageTransformer** (p. 2206) pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the **MessageTransformer** (p. 2206) has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to apply on each **cms** (p. 91)::;**Message** (p. 2077) dispatch.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 869), **activemq::core::ActiveMQConsumer** (p. 301), and **activemq::core::kernels::ActiveMQConsumerKernel** (p. 315).

Referenced by activemq::cmsutil::CachedConsumer::setMessageTransformer().

The documentation for this class was generated from the following file:

- src/main/cms/**MessageConsumer.h**

6.404 activemq::cmsutil::MessageCreator Class Reference

Creates the user-defined message to be sent by the `CmsTemplate` (p. 986).

`#include <src/main/activemq/cmsutil/MessageCreator.h>`

Public Member Functions

- virtual ~**MessageCreator** ()
- virtual **cms::Message** * **createMessage** (**cms::Session** *session)=0

  Creates a message from the given session.

6.404.1 Detailed Description

Creates the user-defined message to be sent by the `CmsTemplate` (p. 986).

6.404.2 Constructor & Destructor Documentation

6.404.2.1 virtual activemq::cmsutil::MessageCreator::~MessageCreator () [virtual]

6.404.3 Member Function Documentation

6.404.3.1 virtual cms::Message* activemq::cmsutil::MessageCreator::createMessage (cms::Session * *session*) [pure virtual]

Creates a message from the given session.

Parameters:

session the CMS `Session`

Exceptions:

cms::CMSException *(*p. ***973****)* if thrown by CMS API methods

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**MessageCreator.h**

6.405 decaf::security::MessageDigest Class Reference

This **MessageDigest** (p. 2121) class provides applications the functionality of a message digest algorithm, such as MD5 or SHA.

`#include <src/main/decaf/security/MessageDigest.h>`

Public Member Functions

- virtual ~**MessageDigest** ()
- std::vector< unsigned char > **digest** ()

  Completes the hash computation by performing final operations such as padding.

- int **digest** (unsigned char *input, int size, int offset, int length)

  Completes the hash computation by performing final operations such as padding.

- std::vector< unsigned char > **digest** (const unsigned char *input, int size)

  Performs a final update on the digest using the specified array of bytes, then completes the digest computation.

- std::vector< unsigned char > **digest** (const std::vector< unsigned char > &input)

  Performs a final update on the digest using the specified array of bytes, then completes the digest computation.

- std::string **getAlgorithmName** () const

  Returns a string that identifies the algorithm, independent of implementation details.

- const **Provider** * **getProvider** () const

  *Returns the **Provider** (p. 2485) associated with this **MessageDigest** (p. 2121).*

- int **getDigestLength** () const

  Returns the length of the digest in bytes, or 0 if this operation is not supported by the provider and the implementation is not cloneable.

- **MessageDigest** * **clone** ()

  *Returns a clone of this MessageDisgest instance if the **MessageDigestSpi** (p. 2127) in use is cloneable.*

- void **reset** ()

  Resets the digest for further use.

- std::string **toString** () const

  Returns a string representation of this message digest object.

- void **update** (unsigned char input)

  Updates the digest using the specified byte.

- void **update** (unsigned char *input, int size, int offset, int len)

  Updates the digest using the specified array of bytes, starting at the specified offset.

- void **update** (const std::vector< unsigned char > &input)

Updates the digest using the specified array of bytes.

- void **update** (**nio::ByteBuffer** &input)

  Update the digest using the specified ByteBuffer.

Static Public Member Functions

- static **MessageDigest** * **getInstance** (const std::string &algorithm)

  *Returns a **MessageDigest** (p. 2121) object that implements the specified digest algorithm.*

- static bool **isEqual** (const std::vector< unsigned char > &digesta, const std::vector< unsigned char > &digestb)

  Compares two digests for equality.

Protected Member Functions

- **MessageDigest** (const std::string &name)

6.405.1 Detailed Description

This **MessageDigest** (p. 2121) class provides applications the functionality of a message digest algorithm, such as MD5 or SHA. Message digests are secure one-way hash functions that take arbitrary-sized data and output a fixed-length hash value.

A **MessageDigest** (p. 2121) object starts out initialized. The data is processed through it using the update methods. At any point reset can be called to reset the digest. Once all the data to be updated has been updated, one of the digest methods should be called to complete the hash computation.

The digest method can be called once for a given number of updates. After digest has been called, the **MessageDigest** (p. 2121) object is reset to its initialized state.

Implementations are free to implement the clone method. Client applications can test cloneability by attempting cloning and catching the CloneNotSupportedException:

MessageDigest* md = **MessageDigest::getInstance** (p. 2124)("SHA");

try { md->update(toChapter1); MessageDigest* tc1 = md.clone(); byte[] toChapter1Digest = tc1.digest(); md.update(toChapter2); ...etc. } catch (CloneNotSupportedException& ex) { throw **DigestException** (p. 1386)("couldn't make digest of partial content"); }

Note that if a given implementation is not cloneable, it is still possible to compute intermediate digests by instantiating several instances, if the number of digests is known in advance.

See also:

MessageDigestSpi (p. 2127)

Since:

1.0

6.405.2 Constructor & Destructor Documentation

6.405.2.1 decaf::security::MessageDigest::MessageDigest (const std::string & *name*) [protected]

6.405.2.2 virtual decaf::security::MessageDigest::~MessageDigest () [virtual]

6.405.3 Member Function Documentation

6.405.3.1 MessageDigest* decaf::security::MessageDigest::clone ()

Returns a clone of this MessageDisgest instance if the **MessageDigestSpi** (p. 2127) in use is cloneable.

Returns:

a clone of this **MessageDigest** (p. 2121) if possible.

Exceptions:

CloneNotSupportedException if the SPI in use cannot be cloned.

6.405.3.2 std::vector<unsigned char> decaf::security::MessageDigest::digest (const std::vector< unsigned char > & *input*)

Performs a final update on the digest using the specified array of bytes, then completes the digest computation. That is, this method first calls update(input), passing the input array to the update method, then calls **digest()** (p. 2124).

Parameters:

input The input to be updated before the digest is completed.

Returns:

the array of bytes for the resulting hash value.

6.405.3.3 std::vector<unsigned char> decaf::security::MessageDigest::digest (const unsigned char * *input*, int *size*)

Performs a final update on the digest using the specified array of bytes, then completes the digest computation. That is, this method first calls update(input), passing the input array to the update method, then calls **digest()** (p. 2124).

Parameters:

input The input to be updated before the digest is completed.

size The length in bytes of the input buffer.

Returns:

the array of bytes for the resulting hash value.

6.405.3.4 int decaf::security::MessageDigest::digest (unsigned char * *input*, int *size*, int *offset*, int *length*)

Completes the hash computation by performing final operations such as padding. The digest is reset after this call is made.

Parameters:

input The output buffer for the computed digest.

size The size of the given input buffer.

offset The offset into the output buffer to begin storing the digest.

length The number of bytes within buf allotted for the digest.

Returns:

the number of bytes placed into buffer.

Exceptions:

DigestException *(*p. ***1386***)* if an error occurs.

6.405.3.5 std::vector<unsigned char> decaf::security::MessageDigest::digest ()

Completes the hash computation by performing final operations such as padding. The digest is reset after this call is made.

6.405.3.6 std::string decaf::security::MessageDigest::getAlgorithmName () const [inline]

Returns a string that identifies the algorithm, independent of implementation details. The name should be a standard name (such as "SHA", "MD5", etc).

Returns:

the algorithm name.

6.405.3.7 int decaf::security::MessageDigest::getDigestLength () const

Returns the length of the digest in bytes, or 0 if this operation is not supported by the provider and the implementation is not cloneable.

Returns:

the digest length in bytes, or 0 if this operation is not supported by the provider and the implementation is not cloneable.

6.405.3.8 static MessageDigest* decaf::security::MessageDigest::getInstance (const std::string & *algorithm*) [static]

Returns a **MessageDigest** (p. 2121) object that implements the specified digest algorithm. This method traverses the list of registered **security** (p. 120) Providers, starting with the most preferred

Provider (p. 2485). A new **MessageDigest** (p. 2121) object encapsulating the **MessageDigestSpi** (p. 2127) implementation from the first **Provider** (p. 2485) that supports the specified algorithm is returned.

Note that the list of registered providers may be retrieved via the Security.getProviders() method.

Parameters:

algorithm The name of the algorithm requested. (MD5, SHA-1, etc)

Returns:

a Message Digest object that implements the specified algorithm.

Exceptions:

NoSuchAlgorithmException *(p. 2244)* if no **Provider** (p. 2485) supports a **MessageDigestSpi** (p. 2127) implementation for the specified algorithm.

6.405.3.9 const Provider* decaf::security::MessageDigest::getProvider () const [inline]

Returns the **Provider** (p. 2485) associated with this **MessageDigest** (p. 2121). The pointer returned by this method remains the property of the **Security** (p. 2628) framework and should be deleted by the calling application at any time.

Returns:

the provider associated with this **MessageDigest** (p. 2121).

6.405.3.10 static bool decaf::security::MessageDigest::isEqual (const std::vector< unsigned char > & *digesta*, const std::vector< unsigned char > & *digestb*) [static]

Compares two digests for equality. Does a simple byte compare.

Parameters:

digesta The first digest for comparison.

digesta The second digest for comparison.

Returns:

true if the two digests are equal.

6.405.3.11 void decaf::security::MessageDigest::reset ()

Resets the digest for further use.

6.405.3.12 std::string decaf::security::MessageDigest::toString () const

Returns a string representation of this message digest object.

Returns:

a string representation of this message digest object.

6.405.3.13 void decaf::security::MessageDigest::update (nio::ByteBuffer & *input*)

Update the digest using the specified ByteBuffer. The digest is updated using the input.remaining() bytes starting at input.position(). Upon return, the buffer's position will be equal to its limit; its limit will not have changed.

Parameters:

input The input ByteBuffer to use for the update.

6.405.3.14 void decaf::security::MessageDigest::update (const std::vector< unsigned char > & *input*)

Updates the digest using the specified array of bytes.

Parameters:

input The array of bytes to use for the update.

6.405.3.15 void decaf::security::MessageDigest::update (unsigned char * *input*, int *size*, int *offset*, int *len*)

Updates the digest using the specified array of bytes, starting at the specified offset.

Parameters:

input The array of bytes.

input The size of the given input buffer.

offset The offset to start from in the array of bytes.

length The number of bytes to use, starting at offset.

6.405.3.16 void decaf::security::MessageDigest::update (unsigned char *input*)

Updates the digest using the specified byte.

Parameters:

input The byte with which to update the digest.

The documentation for this class was generated from the following file:

- src/main/decaf/security/**MessageDigest.h**

6.406 decaf::security::MessageDigestSpi Class Reference

This class defines the Service **Provider** (p. 2485) Interface (SPI) for the **MessageDigest** (p. 2121) class, which provides the functionality of a message digest algorithm, such as MD5 or SHA.

`#include <src/main/decaf/security/MessageDigestSpi.h>`Inheritance diagram for decaf::security::MessageDigestSpi:

Public Member Functions

- **MessageDigestSpi** ()
- virtual ~**MessageDigestSpi** ()
- virtual bool **isCloneable** () const

  Queries the SPI implementation and returns true if the SPI can be cloned.

- virtual **MessageDigestSpi** * **clone** ()

  Returns a clone if the implementation supports being cloned.

Protected Member Functions

- virtual int **engineGetDigestLength** ()=0

  Returns the digest length in bytes.

- virtual void **engineUpdate** (unsigned char input)=0

  Updates the digest using the specified byte.

- virtual void **engineUpdate** (const unsigned char *input, int size, int offset, int length)=0

  Updates the digest using the specified array of bytes, starting at the specified offset.

- virtual void **engineReset** ()=0

  Resets the digest for further use.

- virtual void **engineUpdate** (const std::vector< unsigned char > &input)=0

  Update the digest using the specified Vector of Bytes.

- virtual void **engineUpdate** (**decaf::nio::ByteBuffer** &input)=0

  Update the digest using the specified ByteBuffer.

- virtual std::vector< unsigned char > **engineDigest** ()=0

  Completes the hash computation by performing final operations such as padding.

- virtual int **engineDigest** (unsigned char *buffer, int size, int offset, int length)=0

  Completes the hash computation by performing final operations such as padding.

Friends

- class **MessageDigest**

6.406.1 Detailed Description

This class defines the Service **Provider** (p. 2485) Interface (SPI) for the **MessageDigest** (p. 2121) class, which provides the functionality of a message digest algorithm, such as MD5 or SHA. Message digests are secure one-way hash functions that take arbitrary-sized data and output a fixed-length hash value.

All the pure virtual methods in this class must be implemented by a cryptographic service provider who wishes to supply the implementation of a particular message digest algorithm.

Implementations are free to implement clone method or throw a CloneNotSupportedException..

Since:

1.0

6.406.2 Constructor & Destructor Documentation

6.406.2.1 decaf::security::MessageDigestSpi::MessageDigestSpi ()

6.406.2.2 virtual decaf::security::MessageDigestSpi::~MessageDigestSpi () [virtual]

6.406.3 Member Function Documentation

6.406.3.1 virtual MessageDigestSpi* decaf::security::MessageDigestSpi::clone () [virtual]

Returns a clone if the implementation supports being cloned.

Returns:

a new pointer that is a copy of this object.

Exceptions:

CloneNotSupportedException if this is called on an implementation that does not support cloning.

Reimplemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2046), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2051), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2702).

6.406.3.2 virtual int decaf::security::MessageDigestSpi::engineDigest (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, pure virtual]

Completes the hash computation by performing final operations such as padding. Once engineDigest has been called, the engine should be reset (see engineReset). Resetting is the responsibility of the engine implementor.

Parameters:

buffer The output buffer in which to store the digest

size The size of the given input buffer

offset The offset to start from in the output buffer

length The number of bytes within buffer allotted for the digest. Both this default implementation and the SUN provider do not return partial digests. The presence of this parameter is solely for consistency in our API's. If the value of this parameter is less than the actual digest length, the method will throw a **DigestException** (p. 1386). This parameter is ignored if its value is greater than or equal to the actual digest length.

Returns:

the length of the digest stored in the output buffer.

Exceptions:

DigestException *(*p. ***1386****)* if an error occurs.

NullPointerException if the buffer pointer is NULL.

Implemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2046), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2051), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2702).

6.406.3.3 virtual std::vector<unsigned char> decaf::security::MessageDigestSpi::engineDigest () [protected, pure virtual]

Completes the hash computation by performing final operations such as padding. Once engineDigest has been called, the engine should be reset (see engineReset). Resetting is the responsibility of the engine implementor.

Returns:

an STL vector of bytes containing the resulting hash value.

Implemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2047), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2052), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2703).

6.406.3.4 virtual int decaf::security::MessageDigestSpi::engineGetDigestLength () [protected, pure virtual]

Returns the digest length in bytes.

Returns:

The digest length in bytes.

Implemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2047), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2052), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2703).

6.406.3.5 virtual void decaf::security::MessageDigestSpi::engineReset () [protected, pure virtual]

Resets the digest for further use.

Implemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2047), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2052), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2703).

6.406.3.6 virtual void decaf::security::MessageDigestSpi::engineUpdate (decaf::nio::ByteBuffer & *input*) [protected, pure virtual]

Update the digest using the specified ByteBuffer. The digest is updated using the input.remaining() bytes starting at input.position(). Upon return, the buffer's position will be equal to its limit; its limit will not have changed.

Parameters:

input The ByteBuffer instance that will be used to update the digest.

Implemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2047), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2052), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2703).

6.406.3.7 virtual void decaf::security::MessageDigestSpi::engineUpdate (const std::vector< unsigned char > & *input*) [protected, pure virtual]

Update the digest using the specified Vector of Bytes.

Parameters:

input The vector of bytes that will be used to update the digest.

Implemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2048), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2053), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2704).

6.406.3.8 virtual void decaf::security::MessageDigestSpi::engineUpdate (const unsigned char * *input*, int *size*, int *offset*, int *length*) [protected, pure virtual]

Updates the digest using the specified array of bytes, starting at the specified offset.

Parameters:

input The array of bytes to use for the update.

size The size of the given input buffer..

offset The offset to start from in the array of bytes.

length The number of bytes to use, starting at offset.

Exceptions:

NullPointerException if the input array pointer is NULL.

Implemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2048), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2053), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2704).

6.406.3.9 virtual void decaf::security::MessageDigestSpi::engineUpdate (unsigned char *input*) [protected, pure virtual]

Updates the digest using the specified byte.

Parameters:

input The byte to use for the update.

Implemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2048), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2053), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2704).

6.406.3.10 virtual bool decaf::security::MessageDigestSpi::isCloneable () const [virtual]

Queries the SPI implementation and returns true if the SPI can be cloned.

Returns:

true if the SPI is clonable.

Reimplemented in **decaf::internal::security::provider::crypto::MD4MessageDigestSpi** (p. 2048), **decaf::internal::security::provider::crypto::MD5MessageDigestSpi** (p. 2053), and **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi** (p. 2704).

6.406.4 Friends And Related Function Documentation

6.406.4.1 friend class MessageDigest [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/security/**MessageDigestSpi.h**

6.407 activemq::commands::MessageDispatch Class Reference

`#include <src/main/activemq/commands/MessageDispatch.h>`Inheritance diagram for activemq::commands::MessageDispatch:

Public Member Functions

- **MessageDispatch** ()
- virtual ~**MessageDispatch** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **MessageDispatch** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- void **setRollbackCause** (const **decaf::lang::Exception** &cause)
- **decaf::lang::Exception** **getRollbackCause** () const
- virtual const **Pointer**< **ConsumerId** > & **getConsumerId** () const
- virtual **Pointer**< **ConsumerId** > & **getConsumerId** ()
- virtual void **setConsumerId** (const **Pointer**< **ConsumerId** > &**consumerId**)
- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual const **Pointer**< **Message** > & **getMessage** () const
- virtual **Pointer**< **Message** > & **getMessage** ()
- virtual void **setMessage** (const **Pointer**< **Message** > &**message**)
- virtual int **getRedeliveryCounter** () const
- virtual void **setRedeliveryCounter** (int **redeliveryCounter**)
- virtual bool **isMessageDispatch** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_MESSAGEDISPATCH** = 21

Protected Attributes

- **Pointer< ConsumerId > consumerId**
- **Pointer< ActiveMQDestination > destination**
- **Pointer< Message > message**
- int **redeliveryCounter**

6.407.1 Constructor & Destructor Documentation

6.407.1.1 activemq::commands::MessageDispatch::MessageDispatch ()

6.407.1.2 virtual activemq::commands::MessageDispatch::~MessageDispatch () [virtual]

6.407.2 Member Function Documentation

6.407.2.1 virtual MessageDispatch* activemq::commands::MessageDispatch::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.407.2.2 virtual void activemq::commands::MessageDispatch::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.407.2.3 virtual bool activemq::commands::MessageDispatch::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.407.2.4 virtual Pointer<ConsumerId>& activemq::commands::MessageDispatch::getConsumerId () [virtual]

6.407.2.5 virtual const Pointer<ConsumerId>& activemq::commands::MessageDispatch::getConsumerId () const [virtual]

6.407.2.6 virtual unsigned char activemq::commands::MessageDispatch::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.407.2.7 virtual Pointer<ActiveMQDestination>& activemq::commands::MessageDispatch::getDestination () [virtual]

6.407.2.8 virtual const Pointer<ActiveMQDestination>& activemq::commands::MessageDispatch::getDestination () const [virtual]

6.407.2.9 virtual Pointer<Message>& activemq::commands::MessageDispatch::getMessage () [virtual]

6.407.2.10 virtual const Pointer<Message>& activemq::commands::MessageDispatch::getMessage () const [virtual]

6.407.2.11 virtual int activemq::commands::MessageDispatch::getRedeliveryCounter () const [virtual]

6.407.2.12 decaf::lang::Exception activemq::commands::MessageDispatch::getRollbackCause () const

6.407.2.13 virtual bool activemq::commands::MessageDispatch::isMessageDispatch () const [inline, virtual]

Returns:

an answer of true to the **isMessageDispatch()** (p. 2134) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 632).

6.407.2.14 virtual void activemq::commands::MessageDispatch::setConsumerId (const Pointer< ConsumerId > & *consumerId*) [virtual]

6.407.2.15 virtual void activemq::commands::MessageDispatch::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.407.2.16 virtual void activemq::commands::MessageDispatch::setMessage (const Pointer< Message > & *message*) [virtual]

6.407.2.17 virtual void activemq::commands::MessageDispatch::setRedeliveryCounter (int *redeliveryCounter*) [virtual]

6.407.2.18 void activemq::commands::MessageDispatch::setRollbackCause (const decaf::lang::Exception & *cause*)

6.407.2.19 virtual std::string activemq::commands::MessageDispatch::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.407.2.20 virtual Pointer<Command> activemq::commands::MessageDispatch::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.407.3 Field Documentation

6.407.3.1 Pointer<ConsumerId> activemq::commands::MessageDispatch::consumerId [protected]

6.407.3.2 Pointer<ActiveMQDestination> activemq::commands::MessageDispatch::destination [protected]

6.407.3.3 const unsigned char activemq::commands::MessageDispatch::ID_MESSAGEDISPATCH = 21 [static]

6.407.3.4 Pointer<Message> activemq::commands::MessageDispatch::message [protected]

6.407.3.5 int activemq::commands::MessageDispatch::redeliveryCounter [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**MessageDispatch.h**

6.408 activemq::core::MessageDispatchChannel Class Reference

`#include <src/main/activemq/core/MessageDispatchChannel.h>`Inheritance diagram for activemq::core::MessageDispatchChannel:

Public Member Functions

- virtual ~**MessageDispatchChannel** ()
- virtual void **enqueue** (const **Pointer**< **MessageDispatch** > &message)=0

  Add a Message to the Channel behind all pending message.

- virtual void **enqueueFirst** (const **Pointer**< **MessageDispatch** > &message)=0

  Add a message to the front of the Channel.

- virtual bool **isEmpty** () const =0
- virtual bool **isClosed** () const =0
- virtual bool **isRunning** () const =0
- virtual **Pointer**< **MessageDispatch** > **dequeue** (long long timeout)=0

  Used to get an enqueued message.

- virtual **Pointer**< **MessageDispatch** > **dequeueNoWait** ()=0

  Used to get an enqueued message if there is one queued right now.

- virtual **Pointer**< **MessageDispatch** > **peek** () const =0

  Peek in the Queue and return the first message in the Channel without removing it from the channel.

- virtual void **start** ()=0

  Starts dispatch of messages from the Channel.

- virtual void **stop** ()=0

  Stops dispatch of message from the Channel.

- virtual void **close** ()=0

  Close this channel no messages will be dispatched after this method is called.

- virtual void **clear** ()=0

  Clear the Channel, all pending messages are removed.

- virtual int **size** () const =0
- virtual std::vector< **Pointer**< **MessageDispatch** > > **removeAll** ()=0

  Remove all messages that are currently in the Channel and return them as a list of Messages.

6.408.1 Constructor & Destructor Documentation

6.408.1.1 virtual activemq::core::MessageDispatchChannel::~MessageDispatchChannel () [virtual]

6.408.2 Member Function Documentation

6.408.2.1 virtual void activemq::core::MessageDispatchChannel::clear () [pure virtual]

Clear the Channel, all pending messages are removed.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1499), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2748).

6.408.2.2 virtual void activemq::core::MessageDispatchChannel::close () [pure virtual]

Close this channel no messages will be dispatched after this method is called.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1499), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2748).

6.408.2.3 virtual Pointer<MessageDispatch> activemq::core::MessageDispatchChannel::dequeue (long long *timeout*) [pure virtual]

Used to get an enqueued message. The amount of time this method blocks is based on the timeout value. - if timeout==-1 then it blocks until a message is received. - if timeout==0 then it it tries to not block at all, it returns a message if it is available - if timeout>0 then it blocks up to timeout amount of time. Expired messages will consumed by this method.

Returns:

null if we timeout or if the consumer is closed.

Exceptions:

ActiveMQException

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1500), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2749).

6.408.2.4 virtual Pointer<MessageDispatch> activemq::core::MessageDispatchChannel::dequeueNoWait () [pure virtual]

Used to get an enqueued message if there is one queued right now. If there is no waiting message than this method returns Null.

Returns:

a message if there is one in the queue.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1500), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2749).

6.408.2.5 virtual void activemq::core::MessageDispatchChannel::enqueue (const Pointer< MessageDispatch > & *message*) [pure virtual]

Add a Message to the Channel behind all pending message.

Parameters:

message - The message to add to the Channel.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1500), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2749).

6.408.2.6 virtual void activemq::core::MessageDispatchChannel::enqueueFirst (const Pointer< MessageDispatch > & *message*) [pure virtual]

Add a message to the front of the Channel.

Parameters:

message - The Message to add to the front of the Channel.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1500), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2749).

6.408.2.7 virtual bool activemq::core::MessageDispatchChannel::isClosed () const [pure virtual]

Returns:

has the Queue been closed.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1501), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2750).

6.408.2.8 virtual bool activemq::core::MessageDispatchChannel::isEmpty () const [pure virtual]

Returns:

true if there are no messages in the Channel.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1501), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2750).

6.408.2.9 virtual bool activemq::core::MessageDispatchChannel::isRunning () const [pure virtual]

Returns:

true if the Channel currently running and will dequeue message.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1501), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2750).

6.408.2.10 virtual Pointer<MessageDispatch> activemq::core::MessageDispatchChannel::peek () const [pure virtual]

Peek in the Queue and return the first message in the Channel without removing it from the channel.

Returns:

a message if there is one in the queue.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1502), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2751).

6.408.2.11 virtual std::vector<Pointer<MessageDispatch> > activemq::core::MessageDispatchChannel::removeAll () [pure virtual]

Remove all messages that are currently in the Channel and return them as a list of Messages.

Returns:

a list of Messages that was previously in the Channel.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1502), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2751).

6.408.2.12 virtual int activemq::core::MessageDispatchChannel::size () const [pure virtual]

Returns:

the number of Messages currently in the Channel.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1502), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2751).

6.408.2.13 virtual void activemq::core::MessageDispatchChannel::start () [pure virtual]

Starts dispatch of messages from the Channel.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1502), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2752).

6.408.2.14 virtual void activemq::core::MessageDispatchChannel::stop () [pure virtual]

Stops dispatch of message from the Channel.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1503), and **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2752).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**MessageDispatchChannel.h**

6.409 activemq::wireformat::openwire::marshal::generated::MessageDisp Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **MessageDispatchMarshaller** (p. 2142).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/MessageDispatchMarshaller.h>`In diagram for activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller:

Public Member Functions

- **MessageDispatchMarshaller** ()
- virtual ~**MessageDispatchMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.409.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **MessageDispatchMarshaller** (p. 2142). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.409.2 Constructor & Destructor Documentation

6.409.2.1 activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller::Message() [inline]

6.409.2.2 virtual activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller::~Messa() [inline, virtual]

6.409.3 Member Function Documentation

6.409.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller::createObj() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.409.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller::getDataSt() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.409.3.3 virtual void activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller::looseMars(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.409.3.4 virtual void activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller::looseUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.409.3.5 virtual int activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.409.3.6 virtual void activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.409.3.7 virtual void activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller::tightUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**MessageDispatchMarshaller.h**

6.410 activemq::commands::MessageDispatchNotification Class Reference

`#include <src/main/activemq/commands/MessageDispatchNotification.h>`Inheritance diagram for activemq::commands::MessageDispatchNotification:

Public Member Functions

- **MessageDispatchNotification** ()
- virtual ~**MessageDispatchNotification** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **MessageDispatchNotification** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **ConsumerId** > & **getConsumerId** () const
- virtual **Pointer**< **ConsumerId** > & **getConsumerId** ()
- virtual void **setConsumerId** (const **Pointer**< **ConsumerId** > &**consumerId**)
- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual long long **getDeliverySequenceId** () const
- virtual void **setDeliverySequenceId** (long long **deliverySequenceId**)
- virtual const **Pointer**< **MessageId** > & **getMessageId** () const
- virtual **Pointer**< **MessageId** > & **getMessageId** ()
- virtual void **setMessageId** (const **Pointer**< **MessageId** > &**messageId**)
- virtual bool **isMessageDispatchNotification** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_MESSAGEDISPATCHNOTIFICATION** = 90

Protected Attributes

- **Pointer< ConsumerId > consumerId**
- **Pointer< ActiveMQDestination > destination**
- long long **deliverySequenceId**
- **Pointer< MessageId > messageId**

6.410.1 Constructor & Destructor Documentation

6.410.1.1 activemq::commands::MessageDispatchNotification::MessageDispatchNotification ()

6.410.1.2 virtual activemq::commands::MessageDispatchNotification::~MessageDispatchNotification () [virtual]

6.410.2 Member Function Documentation

6.410.2.1 virtual MessageDispatchNotification* activemq::commands::MessageDispatchNotification::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.410.2.2 virtual void activemq::commands::MessageDispatchNotification::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.410.2.3 virtual bool activemq::commands::MessageDispatchNotification::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.410.2.4 virtual Pointer<ConsumerId>& activemq::commands::MessageDispatchNotification::getConsumerId () [virtual]

6.410.2.5 virtual const Pointer<ConsumerId>& activemq::commands::MessageDispatchNotification::getConsumerId () const [virtual]

6.410.2.6 virtual unsigned char activemq::commands::MessageDispatchNotification::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.410.2.7 virtual long long activemq::commands::MessageDispatchNotification::getDeliverySequenceId () const [virtual]

6.410.2.8 virtual Pointer<ActiveMQDestination>& activemq::commands::MessageDispatchNotification::getDestination () [virtual]

6.410.2.9 virtual const Pointer<ActiveMQDestination>& activemq::commands::MessageDispatchNotification::getDestination () const [virtual]

6.410.2.10 virtual Pointer<MessageId>& activemq::commands::MessageDispatchNotification::getMessageId () [virtual]

6.410.2.11 virtual const Pointer<MessageId>& activemq::commands::MessageDispatchNotification::getMessageId () const [virtual]

6.410.2.12 virtual bool activemq::commands::MessageDispatchNotification::isMessageDispatchNotification () const [inline, virtual]

Returns:

an answer of true to the **isMessageDispatchNotification()** (p. 2148) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 632).

6.410.2.13 virtual void activemq::commands::MessageDispatchNotification::setConsumerId (const Pointer< ConsumerId > & *consumerId*) `[virtual]`

6.410.2.14 virtual void activemq::commands::MessageDispatchNotification::setDeliverySequenceId (long long *deliverySequenceId*) `[virtual]`

6.410.2.15 virtual void activemq::commands::MessageDispatchNotification::setDestination (const Pointer< ActiveMQDestination > & *destination*) `[virtual]`

6.410.2.16 virtual void activemq::commands::MessageDispatchNotification::setMessageId (const Pointer< MessageId > & *messageId*) `[virtual]`

6.410.2.17 virtual std::string activemq::commands::MessageDispatchNotification::toString () const `[virtual]`

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.410.2.18 virtual Pointer<Command> activemq::commands::MessageDispatchNotification::visit (activemq::state::CommandVisitor * *visitor*) `[virtual]`

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.410.3 Field Documentation

6.410.3.1 Pointer<ConsumerId> activemq::commands::MessageDispatchNotification::consumerId [protected]

6.410.3.2 long long activemq::commands::MessageDispatchNotification::deliverySequenceId [protected]

6.410.3.3 Pointer<ActiveMQDestination> activemq::commands::MessageDispatchNotification::destination [protected]

6.410.3.4 const unsigned char activemq::commands::MessageDispatchNotification::ID_MESSAGEDISPATCHNOTIFICATION = 90 [static]

6.410.3.5 Pointer<MessageId> activemq::commands::MessageDispatchNotification::messageId [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**MessageDispatchNotification.h**

6.411 activemq::wireformat::openwire::marshal::generated::MessageDisp Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **MessageDispatchNotificationMarshaller** (p. 2151).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/MessageDispatchNotificationMar`
diagram for activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller:

Public Member Functions

- **MessageDispatchNotificationMarshaller** ()
- virtual ~**MessageDispatchNotificationMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.411.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **MessageDispatchNotificationMarshaller** (p. 2151). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.411.2 Constructor & Destructor Documentation

6.411.2.1 activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshal () [inline]

6.411.2.2 virtual activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshal () [inline, virtual]

6.411.3 Member Function Documentation

6.411.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshalle () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.411.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshalle () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.411.3.3 virtual void activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshalle (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.411.3.4 virtual void activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.411.3.5 virtual int activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.411.3.6 virtual void activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.411.3.7 virtual void activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshaller (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**MessageDispatchNotificationMarshaller.h**

6.412 cms::MessageEnumeration Class Reference

Defines an object that enumerates a collection of Messages.

`#include <src/main/cms/MessageEnumeration.h>`Inheritance diagram for cms::MessageEnumeration:

Public Member Functions

- virtual ~**MessageEnumeration** ()
- virtual bool **hasMoreMessages** ()=0

  *Returns true if there are more **Message** (p. 2077) in the Browser that can be retrieved via the `nextMessage` method.*

- virtual **cms::Message** * **nextMessage** ()=0

  *Returns the Next **Message** (p. 2077) in the **Queue** (p. 2499) if one is present, if no more Message's are available then an Exception is thrown.*

6.412.1 Detailed Description

Defines an object that enumerates a collection of Messages. The client calls the hasMoreMessages method to determine if a **Message** (p. 2077) is available. If a **Message** (p. 2077) is available the client calls the nextMessage method to retrieve that **Message** (p. 2077), calling nextMessage when a **Message** (p. 2077) is not available results in an exception.

Since:

2.1

6.412.2 Constructor & Destructor Documentation

6.412.2.1 virtual cms::MessageEnumeration::~MessageEnumeration () [virtual]

6.412.3 Member Function Documentation

6.412.3.1 virtual bool cms::MessageEnumeration::hasMoreMessages () [pure virtual]

Returns true if there are more **Message** (p. 2077) in the Browser that can be retrieved via the `nextMessage` method. If this method returns false and the `nextMessage` method is called then an Exception will be thrown.

Returns:

true if more Message's are available in the Browser.

Implemented in **activemq::core::ActiveMQQueueBrowser** (p. 421).

6.412.3.2 virtual cms::Message* cms::MessageEnumeration::nextMessage () [pure virtual]

Returns the Next **Message** (p. 2077) in the **Queue** (p. 2499) if one is present, if no more Message's are available then an Exception is thrown. If a **Message** (p. 2077) object pointer is returned then that object becomes the property of the caller and must be deleted by the caller when finished.

Returns:

The next **Message** (p. 2077) in the **Queue** (p. 2499).

Exceptions:

CMSException *(p. **973**)* if no more Message's currently in the **Queue** (p. 2499).

Implemented in **activemq::core::ActiveMQQueueBrowser** (p. 421).

The documentation for this class was generated from the following file:

- src/main/cms/**MessageEnumeration.h**

6.413 cms::MessageEOFException Class Reference

This exception must be thrown when an unexpected end of stream has been reached when a **StreamMessage** (p. 2907) or **BytesMessage** (p. 851) is being read.

`#include <src/main/cms/MessageEOFException.h>`Inheritance diagram for cms::MessageEOFException:

Public Member Functions

- **MessageEOFException** ()
- **MessageEOFException** (const **MessageEOFException** &ex)
- **MessageEOFException** (const std::string &message)
- **MessageEOFException** (const std::string &message, const std::exception *cause)
- **MessageEOFException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**MessageEOFException** () throw ()
- virtual **MessageEOFException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.413.1 Detailed Description

This exception must be thrown when an unexpected end of stream has been reached when a **StreamMessage** (p. 2907) or **BytesMessage** (p. 851) is being read.

Since:

1.3

6.413.2 Constructor & Destructor Documentation

6.413.2.1 cms::MessageEOFException::MessageEOFException ()

6.413.2.2 cms::MessageEOFException::MessageEOFException (const MessageEOFException & *ex*)

6.413.2.3 cms::MessageEOFException::MessageEOFException (const std::string & *message*)

6.413.2.4 cms::MessageEOFException::MessageEOFException (const std::string & *message*, const std::exception * *cause*)

6.413.2.5 cms::MessageEOFException::MessageEOFException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.413.2.6 virtual cms::MessageEOFException::~MessageEOFException () throw () [virtual]

6.413.3 Member Function Documentation

6.413.3.1 virtual MessageEOFException* cms::MessageEOFException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**MessageEOFException.h**

6.414 cms::MessageFormatException Class Reference

This exception must be thrown when a CMS client attempts to use a data type not supported by a message or attempts to read data in a message as the wrong type.

`#include <src/main/cms/MessageFormatException.h>`Inheritance diagram for cms::MessageFormatException:

Public Member Functions

- **MessageFormatException** ()
- **MessageFormatException** (const **MessageFormatException** &ex)
- **MessageFormatException** (const std::string &message)
- **MessageFormatException** (const std::string &message, const std::exception *cause)
- **MessageFormatException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**MessageFormatException** () throw ()
- virtual **MessageFormatException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.414.1 Detailed Description

This exception must be thrown when a CMS client attempts to use a data type not supported by a message or attempts to read data in a message as the wrong type. It must also be thrown when equivalent type errors are made with message property values. For example, this exception must be thrown if **StreamMessage.readShort** (p. 2913) is used to read a boolean value.

Since:

1.3

6.414.2 Constructor & Destructor Documentation

6.414.2.1 cms::MessageFormatException::MessageFormatException ()

6.414.2.2 cms::MessageFormatException::MessageFormatException (const MessageFormatException & *ex*)

6.414.2.3 cms::MessageFormatException::MessageFormatException (const std::string & *message*)

6.414.2.4 cms::MessageFormatException::MessageFormatException (const std::string & *message*, const std::exception * *cause*)

6.414.2.5 cms::MessageFormatException::MessageFormatException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.414.2.6 virtual cms::MessageFormatException::~MessageFormatException () throw () [virtual]

6.414.3 Member Function Documentation

6.414.3.1 virtual MessageFormatException* cms::MessageFormatException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**MessageFormatException.h**

6.415 activemq::commands::MessageId Class Reference

`#include <src/main/activemq/commands/MessageId.h>`Inheritance diagram for activemq::commands::MessageId:

Public Types

- typedef **decaf::lang::PointerComparator< MessageId > COMPARATOR**

Public Member Functions

- **MessageId** ()
- **MessageId** (const **MessageId** &other)
- **MessageId** (const std::string &messageKey)
- **MessageId** (const **Pointer< ProducerInfo >** &producerInfo, long long **producerSequenceId**)
- **MessageId** (const **Pointer< ProducerId >** &**producerId**, long long **producerSequenceId**)
- **MessageId** (const std::string &**producerId**, long long **producerSequenceId**)
- virtual ~**MessageId** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **MessageId** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- void **setValue** (const std::string &key)
- void **setTextView** (const std::string &key)
- virtual const **Pointer< ProducerId >** & **getProducerId** () const
- virtual **Pointer< ProducerId >** & **getProducerId** ()
- virtual void **setProducerId** (const **Pointer< ProducerId >** &**producerId**)
- virtual long long **getProducerSequenceId** () const
- virtual void **setProducerSequenceId** (long long **producerSequenceId**)
- virtual long long **getBrokerSequenceId** () const
- virtual void **setBrokerSequenceId** (long long **brokerSequenceId**)
- virtual int **compareTo** (const **MessageId** &value) const
- virtual bool **equals** (const **MessageId** &value) const
- virtual bool **operator==** (const **MessageId** &value) const
- virtual bool **operator<** (const **MessageId** &value) const
- **MessageId** & **operator=** (const **MessageId** &other)
- int **getHashCode** () const

Static Public Attributes

- static const unsigned char **ID_MESSAGEID** = 110

Protected Attributes

- **Pointer< ProducerId > producerId**
- long long **producerSequenceId**
- long long **brokerSequenceId**

6.415.1 Member Typedef Documentation

6.415.1.1 typedef decaf::lang::PointerComparator<MessageId> activemq::commands::MessageId::COMPARATOR

6.415.2 Constructor & Destructor Documentation

6.415.2.1 activemq::commands::MessageId::MessageId ()

6.415.2.2 activemq::commands::MessageId::MessageId (const MessageId & *other*)

6.415.2.3 activemq::commands::MessageId::MessageId (const std::string & *messageKey*)

6.415.2.4 activemq::commands::MessageId::MessageId (const Pointer< ProducerInfo > & *producerInfo*, long long *producerSequenceId*)

6.415.2.5 activemq::commands::MessageId::MessageId (const Pointer< ProducerId > & *producerId*, long long *producerSequenceId*)

6.415.2.6 activemq::commands::MessageId::MessageId (const std::string & *producerId*, long long *producerSequenceId*)

6.415.2.7 virtual activemq::commands::MessageId::~MessageId () [virtual]

6.415.3 Member Function Documentation

6.415.3.1 virtual MessageId* activemq::commands::MessageId::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.415.3.2 virtual int activemq::commands::MessageId::compareTo (const MessageId & *value*) const [virtual]

6.415.3.3 virtual void activemq::commands::MessageId::copyDataStructure (const DataStructure * *src*) [virtual]

6.415.3.4 virtual bool activemq::commands::MessageId::equals (const MessageId & *value*) const [virtual]

6.415.3.5 virtual bool activemq::commands::MessageId::equals (const DataStructure * *value*) const [virtual]

6.415.3.6 virtual long long activemq::commands::MessageId::getBrokerSequenceId () const [virtual]

6.415.3.7 virtual unsigned char activemq::commands::MessageId::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.415.3.8 int activemq::commands::MessageId::getHashCode () const

6.415.3.9 virtual Pointer<ProducerId>& activemq::commands::MessageId::getProducerId () [virtual]

6.415.3.10 virtual const Pointer<ProducerId>& activemq::commands::MessageId::getProducerId () const [virtual]

6.415.3.11 virtual long long activemq::commands::MessageId::getProducerSequenceId () const [virtual]

6.415.3.12 virtual bool activemq::commands::MessageId::operator< (const MessageId & *value*) const [virtual]

6.415.3.13 MessageId& activemq::commands::MessageId::operator= (const MessageId & *other*)

6.415.3.14 virtual bool activemq::commands::MessageId::operator== (const MessageId & *value*) const [virtual]

6.415.3.15 virtual void activemq::commands::MessageId::setBrokerSequenceId (long long *brokerSequenceId*) [virtual]

6.415.3.16 virtual void activemq::commands::MessageId::setProducerId (const Pointer< ProducerId > & *producerId*) [virtual]

6.415.3.17 virtual void activemq::commands::MessageId::setProducerSequenceId (long long *producerSequenceId*) [virtual]

6.415.3.18 void activemq::commands::MessageId::setTextView (const std::string & *key*)

6.415.3.19 void activemq::commands::MessageId::setValue (const std::string & *key*)

6.415.3.20 virtual std::string activemq::commands::MessageId::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.415.4 Field Documentation

6.415.4.1 long long activemq::commands::MessageId::brokerSequenceId [protected]

6.415.4.2 const unsigned char activemq::commands::MessageId::ID_MESSAGEID = 110 [static]

6.415.4.3 Pointer<ProducerId> activemq::commands::MessageId::producerId [protected]

6.415.4.4 long long activemq::commands::MessageId::producerSequenceId [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**MessageId.h**

6.416 activemq::wireformat::openwire::marshal::generated::MessageIdM Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **MessageIdMarshaller** (p. 2166).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/MessageIdMarshaller.h>`Inheritan diagram for activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller:

Public Member Functions

- **MessageIdMarshaller** ()
- virtual ~**MessageIdMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.416.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **MessageIdMarshaller** (p. 2166). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.416.2 Constructor & Destructor Documentation

6.416.2.1 activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller::MessageIdMar () [inline]

6.416.2.2 virtual activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller::~MessageIdMa () [inline, virtual]

6.416.3 Member Function Documentation

6.416.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.416.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller::getDataStructur () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.416.3.3 virtual void activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.416.3.4 virtual void activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller::looseUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.416.3.5 virtual int activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.416.3.6 virtual void activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.416.3.7 virtual void activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller::tightUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**MessageIdMarshaller.h**

6.417 cms::MessageListener Class Reference

A `MessageListener` (p. 2170) object is used to receive asynchronously delivered messages.

`#include <src/main/cms/MessageListener.h>`

Public Member Functions

- virtual ~**MessageListener** ()
- virtual void **onMessage** (const **Message** *message)=0

  *Called asynchronously when a new message is received, the message reference can be to any of the **Message** (p. 2077) types.*

6.417.1 Detailed Description

A `MessageListener` (p. 2170) object is used to receive asynchronously delivered messages.

Since:

1.0

6.417.2 Constructor & Destructor Documentation

6.417.2.1 virtual cms::MessageListener::~MessageListener () [virtual]

6.417.3 Member Function Documentation

6.417.3.1 virtual void cms::MessageListener::onMessage (const Message * *message*) [pure virtual]

Called asynchronously when a new message is received, the message reference can be to any of the **Message** (p. 2077) types. a dynamic cast is used to find out what type of message this is. The lifetime of this object is only guaranteed to be for life of the onMessage function after this call-back returns the message may no longer exists. Users should copy the data or clone the message if they wish to retain information that was contained in this **Message** (p. 2077).

It is considered a programming error for this method to throw an exception. The method has been tagged with the 'throw()' qualifier, this implies that you application will segfault if you throw an error from an implementation of this method.

Parameters:

message **Message** (p. 2077) object {const} pointer recipient does not own.

The documentation for this class was generated from the following file:

- src/main/cms/**MessageListener.h**

6.418 activemq::wireformat::openwire::marshal::generated::MessageMars Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **MessageMarshaller** (p. 2171).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/MessageMarshaller.h>`Inheritance diagram for activemq::wireformat::openwire::marshal::generated::MessageMarshaller:

Public Member Functions

- **MessageMarshaller** ()
- virtual ~**MessageMarshaller** ()
- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.418.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **MessageMarshaller** (p. 2171). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.418.2 Constructor & Destructor Documentation

6.418.2.1 activemq::wireformat::openwire::marshal::generated::MessageMarshaller::MessageMarshal () [inline]

6.418.2.2 virtual activemq::wireformat::openwire::marshal::generated::MessageMarshaller::~MessageMarsh () [inline, virtual]

6.418.3 Member Function Documentation

6.418.3.1 virtual void activemq::wireformat::openwire::marshal::generated::MessageMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshall** (p. 210), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 229), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 356), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 367), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 384), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 484), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 518).

6.418.3.2 virtual void activemq::wireformat::openwire::marshal::generated::MessageMarshaller::looseUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshall** (p. 211), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 230), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 357), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 368), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 385), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 485), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 519).

6.418.3.3 virtual int activemq::wireformat::openwire::marshal::generated::MessageMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshall** (p. 211), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 230), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 357), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 368), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 385), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 485), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 519).

6.418.3.4 virtual void activemq::wireformat::openwire::marshal::generated::MessageMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshall** (p. 211), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 230), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 357), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 368), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 385), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 485), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 519).

6.418.3.5 virtual void activemq::wireformat::openwire::marshal::generated::MessageMarshaller::tightUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshall** (p. 212), **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller** (p. 231), **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller** (p. 358), **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller** (p. 369), **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller** (p. 386), **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller** (p. 486), and **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller** (p. 520).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**MessageMarshaller.h**

6.419 cms::MessageNotReadableException Class Reference

This exception must be thrown when a CMS client attempts to read a write-only message.

`#include <src/main/cms/MessageNotReadableException.h>`Inheritance diagram for cms::MessageNotReadableException:

Public Member Functions

- **MessageNotReadableException** ()
- **MessageNotReadableException** (const **MessageNotReadableException** &ex)
- **MessageNotReadableException** (const std::string &message)
- **MessageNotReadableException** (const std::string &message, const std::exception *cause)
- **MessageNotReadableException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**MessageNotReadableException** () throw ()
- virtual **MessageNotReadableException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.419.1 Detailed Description

This exception must be thrown when a CMS client attempts to read a write-only message.

Since:

1.3

6.419.2 Constructor & Destructor Documentation

6.419.2.1 cms::MessageNotReadableException::MessageNotReadableException ()

6.419.2.2 cms::MessageNotReadableException::MessageNotReadableException (const MessageNotReadableException & *ex*)

6.419.2.3 cms::MessageNotReadableException::MessageNotReadableException (const std::string & *message*)

6.419.2.4 cms::MessageNotReadableException::MessageNotReadableException (const std::string & *message*, const std::exception * *cause*)

6.419.2.5 cms::MessageNotReadableException::MessageNotReadableException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.419.2.6 virtual cms::MessageNotReadableException::~MessageNotReadableException () throw () [virtual]

6.419.3 Member Function Documentation

6.419.3.1 virtual MessageNotReadableException* cms::MessageNotReadableException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**MessageNotReadableException.h**

6.420 cms::MessageNotWriteableException Class Reference

This exception must be thrown when a CMS client attempts to write to a read-only message.

`#include <src/main/cms/MessageNotWriteableException.h>`Inheritance diagram for cms::MessageNotWriteableException:

Public Member Functions

- **MessageNotWriteableException** ()
- **MessageNotWriteableException** (const **MessageNotWriteableException** &ex)
- **MessageNotWriteableException** (const std::string &message)
- **MessageNotWriteableException** (const std::string &message, const std::exception *cause)
- **MessageNotWriteableException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**MessageNotWriteableException** () throw ()
- virtual **MessageNotWriteableException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.420.1 Detailed Description

This exception must be thrown when a CMS client attempts to write to a read-only message.

Since:

1.3

6.420.2 Constructor & Destructor Documentation

6.420.2.1 cms::MessageNotWriteableException::MessageNotWriteableException ()

6.420.2.2 cms::MessageNotWriteableException::MessageNotWriteableException (const MessageNotWriteableException & *ex*)

6.420.2.3 cms::MessageNotWriteableException::MessageNotWriteableException (const std::string & *message*)

6.420.2.4 cms::MessageNotWriteableException::MessageNotWriteableException (const std::string & *message*, const std::exception * *cause*)

6.420.2.5 cms::MessageNotWriteableException::MessageNotWriteableException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.420.2.6 virtual cms::MessageNotWriteableException::~MessageNotWriteableException () throw () [virtual]

6.420.3 Member Function Documentation

6.420.3.1 virtual MessageNotWriteableException* cms::MessageNotWriteableException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**MessageNotWriteableException.h**

6.421 cms::MessageProducer Class Reference

A client uses a `MessageProducer` (p. 2179) object to send messages to a **Destination** (p. 1371).

`#include <src/main/cms/MessageProducer.h>`Inheritance diagram for cms::MessageProducer:

Public Member Functions

- virtual ~**MessageProducer** ()
- virtual void **send** (**Message** *message)=0

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**Message** *message, **AsyncCallback** *onComplete)=0

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**Message** *message, int deliveryMode, int priority, long long timeToLive)=0

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (**Message** *message, int deliveryMode, int priority, long long timeToLive, **AsyncCallback** *onComplete)=0

  Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **Destination** *destination, **Message** *message)=0

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **Destination** *destination, **Message** *message, **AsyncCallback** *onComplete)=0

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **Destination** *destination, **Message** *message, int deliveryMode, int priority, long long timeToLive)=0

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **send** (const **Destination** *destination, **Message** *message, int deliveryMode, int priority, long long timeToLive, **AsyncCallback** *onComplete)=0

  Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

- virtual void **setDeliveryMode** (int mode)=0

  Sets the delivery mode for this Producer.

- virtual int **getDeliveryMode** () const =0

Gets the delivery mode for this Producer.

- virtual void **setDisableMessageID** (bool value)=0

  *Sets if **Message** (p. 2077) Ids are disabled for this Producer.*

- virtual bool **getDisableMessageID** () const =0

  *Gets if **Message** (p. 2077) Ids are disabled for this Producer.*

- virtual void **setDisableMessageTimeStamp** (bool value)=0

  *Sets if **Message** (p. 2077) Time Stamps are disabled for this Producer.*

- virtual bool **getDisableMessageTimeStamp** () const =0

  *Gets if **Message** (p. 2077) Time Stamps are disabled for this Producer.*

- virtual void **setPriority** (int priority)=0

  Sets the Priority that this Producers sends messages at.

- virtual int **getPriority** () const =0

  Gets the Priority level that this producer sends messages at.

- virtual void **setTimeToLive** (long long time)=0

  Sets the Time to Live that this Producers sends messages with.

- virtual long long **getTimeToLive** () const =0

  Gets the Time to Live that this producer sends messages with.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)=0

  *Set an **MessageTransformer** (p. 2206) instance that is applied to all **cms::Message** (p. 2077) objects before they are sent on to the CMS bus.*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const =0

  *Gets the currently configured **MessageTransformer** (p. 2206) for this **MessageProducer** (p. 2179).*

6.421.1 Detailed Description

A client uses a `MessageProducer (p. 2179)` object to send messages to a **Destination** (p. 1371). A `MessageProducer (p. 2179)` object is created by passing a `Destination (p. 1371)` object to a message-producer creation method supplied by a session.

A client also has the option of creating a message producer without supplying a destination. In this case, a **Destination** (p. 1371) must be provided with every send operation. A typical use for this kind of message producer is to send replies to requests using the request's CMSReplyTo destination.

A client can specify a default delivery mode, priority, and time to live for messages sent by a message producer. It can also specify the delivery mode, priority, and time to live for an individual message.

A client can specify a time-to-live value in milliseconds for each message it sends. This value defines a message expiration time that is the sum of the message's time-to-live and the GMT

when it is sent (for transacted sends, this is the time the client sends the message, not the time the transaction is committed).

Since:

1.0

6.421.2 Constructor & Destructor Documentation

6.421.2.1 virtual cms::MessageProducer::~MessageProducer () [virtual]

6.421.3 Member Function Documentation

6.421.3.1 virtual int cms::MessageProducer::getDeliveryMode () const [pure virtual]

Gets the delivery mode for this Producer.

Returns:

The **DeliveryMode** (p. 1358)

Exceptions:

CMSException *(p. **973**)* - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 873), **activemq::core::ActiveMQProducer** (p. 389), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 401).

Referenced by activemq::cmsutil::CachedProducer::getDeliveryMode().

6.421.3.2 virtual bool cms::MessageProducer::getDisableMessageID () const [pure virtual]

Gets if **Message** (p. 2077) Ids are disabled for this Producer.

Returns:

boolean indicating enable / disable (true / false)

Exceptions:

CMSException *(p. **973**)* - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 873), **activemq::core::ActiveMQProducer** (p. 389), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 401).

Referenced by activemq::cmsutil::CachedProducer::getDisableMessageID().

6.421.3.3 virtual bool cms::MessageProducer::getDisableMessageTimeStamp () const [pure virtual]

Gets if **Message** (p. 2077) Time Stamps are disabled for this Producer.

Returns:

boolean indicating enable / disable (true / false)

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 873), **activemq::core::ActiveMQProducer** (p. 390), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 401).

Referenced by activemq::cmsutil::CachedProducer::getDisableMessageTimeStamp().

6.421.3.4 virtual cms::MessageTransformer* cms::MessageProducer::getMessageTransformer () const [pure virtual]

Gets the currently configured **MessageTransformer** (p. 2206) for this **MessageProducer** (p. 2179).

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implemented in **activemq::cmsutil::CachedProducer** (p. 874), **activemq::core::ActiveMQProducer** (p. 390), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 401).

Referenced by activemq::cmsutil::CachedProducer::getMessageTransformer().

6.421.3.5 virtual int cms::MessageProducer::getPriority () const [pure virtual]

Gets the Priority level that this producer sends messages at.

Returns:

int based priority level

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 874), **activemq::core::ActiveMQProducer** (p. 390), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 402).

Referenced by activemq::cmsutil::CachedProducer::getPriority().

6.421.3.6 virtual long long cms::MessageProducer::getTimeToLive () const [pure virtual]

Gets the Time to Live that this producer sends messages with.

Returns:

Time to live value in milliseconds

Exceptions:

CMSException *(*p. ***973***) - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 874), **activemq::core::ActiveMQProducer** (p. 391), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 403).

Referenced by activemq::cmsutil::CachedProducer::getTimeToLive().

6.421.3.7 virtual void cms::MessageProducer::send (const Destination * *destination*, Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*, AsyncCallback * *onComplete*) [pure virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. If the **AsyncCallback** (p. 603) parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the **Message** (p. 2077) or an Error occurs.

Parameters:

destination The destination on which to send the message

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

onComplete The **AsyncCallback** (p. 603) instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException *(*p. ***973***) - if an internal error occurs while sending the message.

MessageFormatException *(*p. ***2159***) - if an Invalid **Message** (p. 2077) is given.

InvalidDestinationException *(*p. ***1761***) - if a client uses this method with a **MessageProducer** (p. 2179) with an invalid destination.

UnsupportedOperationException *(*p. ***3150***) - if a client uses this method with a **MessageProducer** (p. 2179) that did not specify a destination at creation time.

Implemented in **activemq::cmsutil::CachedProducer** (p. 875), **activemq::core::ActiveMQProducer** (p. 391), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 403).

6.421.3.8 virtual void cms::MessageProducer::send (const Destination * *destination*, Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*) [pure virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it.

Parameters:

destination The destination on which to send the message

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

Exceptions:

CMSException *(*p. ***973***) - if an internal error occurs while sending the message.

MessageFormatException *(*p. ***2159***) - if an Invalid **Message** (p. 2077) is given.

InvalidDestinationException *(*p. ***1761***) - if a client uses this method with a **MessageProducer** (p. 2179) with an invalid destination.

UnsupportedOperationException *(*p. ***3150***) - if a client uses this method with a **MessageProducer** (p. 2179) that did not specify a destination at creation time.

Implemented in **activemq::cmsutil::CachedProducer** (p. 875), **activemq::core::ActiveMQProducer** (p. 392), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 404).

6.421.3.9 virtual void cms::MessageProducer::send (const Destination * *destination*, Message * *message*, AsyncCallback * *onComplete*) [pure virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live. If the **AsyncCallback** (p. 603) parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the **Message** (p. 2077) or an Error occurs.

Parameters:

destination The destination on which to send the message

message the message to be sent.

onComplete The **AsyncCallback** (p. 603) instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException *(*p. ***973***) - if an internal error occurs while sending the message.

MessageFormatException *(*p. ***2159***) - if an Invalid **Message** (p. 2077) is given.

InvalidDestinationException *(*p. ***1761***) - if a client uses this method with a **MessageProducer** (p. 2179) with an invalid destination.

UnsupportedOperationException *(*p. ***3150***) - if a client uses this method with a **MessageProducer** (p. 2179) that did not specify a destination at creation time.

Implemented in **activemq::cmsutil::CachedProducer** (p. 876), **activemq::core::ActiveMQProducer** (p. 392), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 404).

6.421.3.10 virtual void cms::MessageProducer::send (const Destination * *destination*, Message * *message*) [pure virtual]

Sends the message to the designated destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live.

Parameters:

destination The destination on which to send the message

message the message to be sent.

Exceptions:

CMSException (p. ***973***) - if an internal error occurs while sending the message.

MessageFormatException (p. ***2159***) - if an Invalid **Message** (p. 2077) is given.

InvalidDestinationException (p. ***1761***) - if a client uses this method with a **MessageProducer** (p. 2179) with an invalid destination.

UnsupportedOperationException (p. ***3150***) - if a client uses this method with a **MessageProducer** (p. 2179) that did not specify a destination at creation time.

Implemented in **activemq::cmsutil::CachedProducer** (p. 876), **activemq::core::ActiveMQProducer** (p. 393), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 405).

6.421.3.11 virtual void cms::MessageProducer::send (Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*, AsyncCallback * *onComplete*) [pure virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. If the **AsyncCallback** (p. 603) parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the **Message** (p. 2077) or an Error occurs.

Parameters:

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

onComplete The **AsyncCallback** (p. 603) instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException (p. ***973***) - if an internal error occurs while sending the message.

MessageFormatException (p. ***2159***) - if an Invalid **Message** (p. 2077) is given.

InvalidDestinationException (p. ***1761***) - if a client uses this method with a **MessageProducer** (p. 2179) with an invalid destination.

UnsupportedOperationException (p. ***3150***) - if a client uses this method with a **MessageProducer** (p. 2179) that did not specify a destination at creation time.

Implemented in **activemq::cmsutil::CachedProducer** (p. 877), **activemq::core::ActiveMQProducer** (p. 393), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 405).

6.421.3.12 virtual void cms::MessageProducer::send (Message * *message*, int *deliveryMode*, int *priority*, long long *timeToLive*) [pure virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it.

Parameters:

message The message to be sent.

deliveryMode The delivery mode to be used.

priority The priority for this message.

timeToLive The time to live value for this message in milliseconds.

Exceptions:

CMSException (p. ***973***) - if an internal error occurs while sending the message.

MessageFormatException (p. ***2159***) - if an Invalid **Message** (p. 2077) is given.

InvalidDestinationException (p. ***1761***) - if a client uses this method with a **MessageProducer** (p. 2179) with an invalid destination.

UnsupportedOperationException (p. ***3150***) - if a client uses this method with a **MessageProducer** (p. 2179) that did not specify a destination at creation time.

Implemented in **activemq::cmsutil::CachedProducer** (p. 877), **activemq::core::ActiveMQProducer** (p. 394), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 406).

6.421.3.13 virtual void cms::MessageProducer::send (Message * *message*, AsyncCallback * *onComplete*) [pure virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live. If the **AsyncCallback** (p. 603) parameter is set this method will return immediately and the call-back will be notified once the CMS Provider as acknowledge receipt of the **Message** (p. 2077) or an Error occurs.

Parameters:

message The message to be sent.

onComplete The **AsyncCallback** (p. 603) instance to notify on send complete or error, caller retains ownership of this pointer and must destroy it only after the send completes or the connection is closed.

Exceptions:

CMSException (p. ***973***) - if an internal error occurs while sending the message.

MessageFormatException (p. ***2159***) - if an Invalid **Message** (p. 2077) is given.

InvalidDestinationException (p. ***1761***) - if a client uses this method with a **MessageProducer** (p. 2179) with an invalid destination.

UnsupportedOperationException *(p. 3150)* - if a client uses this method with a **MessageProducer** (p. 2179) that did not specify a destination at creation time.

Implemented in **activemq::cmsutil::CachedProducer** (p. 878), **activemq::core::ActiveMQProducer** (p. 394), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 406).

6.421.3.14 virtual void cms::MessageProducer::send (Message * *message*) [pure virtual]

Sends the message to the default producer destination, but does not take ownership of the message, caller must still destroy it. Uses default values for deliveryMode, priority, and time to live.

Parameters:

message The message to be sent.

Exceptions:

CMSException *(p. 973)* - if an internal error occurs while sending the message.

MessageFormatException *(p. 2159)* - if an Invalid **Message** (p. 2077) is given.

InvalidDestinationException *(p. 1761)* - if a client uses this method with a **MessageProducer** (p. 2179) with an invalid destination.

UnsupportedOperationException *(p. 3150)* - if a client uses this method with a **MessageProducer** (p. 2179) that did not specify a destination at creation time.

Implemented in **activemq::cmsutil::CachedProducer** (p. 878), **activemq::core::ActiveMQProducer** (p. 395), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 407).

Referenced by activemq::cmsutil::CachedProducer::send().

6.421.3.15 virtual void cms::MessageProducer::setDeliveryMode (int *mode*) [pure virtual]

Sets the delivery mode for this Producer.

Parameters:

mode The **DeliveryMode** (p. 1358)

Exceptions:

CMSException *(p. 973)* - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 879), **activemq::core::ActiveMQProducer** (p. 395), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 407).

Referenced by activemq::cmsutil::CachedProducer::setDeliveryMode().

6.421.3.16 virtual void cms::MessageProducer::setDisableMessageID (bool *value*) [pure virtual]

Sets if **Message** (p. 2077) Ids are disabled for this Producer.

Parameters:

value boolean indicating enable / disable (true / false)

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 879), **activemq::core::ActiveMQProducer** (p. 395), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 408).

Referenced by activemq::cmsutil::CachedProducer::setDisableMessageID().

6.421.3.17 virtual void cms::MessageProducer::setDisableMessageTimeStamp (bool *value*) [pure virtual]

Sets if **Message** (p. 2077) Time Stamps are disabled for this Producer.

Parameters:

value - boolean indicating enable / disable (true / false)

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 879), **activemq::core::ActiveMQProducer** (p. 396), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 408).

Referenced by activemq::cmsutil::CachedProducer::setDisableMessageTimeStamp().

6.421.3.18 virtual void cms::MessageProducer::setMessageTransformer (cms::MessageTransformer * *transformer*) [pure virtual]

Set an **MessageTransformer** (p. 2206) instance that is applied to all **cms::Message** (p. 2077) objects before they are sent on to the CMS bus. The CMS **code** (p. 999) never takes ownership of the **MessageTransformer** (p. 2206) pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the **MessageTransformer** (p. 2206) has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to apply on each **cms** (p. 91)::;MessageSend.

Implemented in **activemq::cmsutil::CachedProducer** (p. 880), **activemq::core::ActiveMQProducer** (p. 396), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 408).

Referenced by activemq::cmsutil::CachedProducer::setMessageTransformer().

6.421.3.19 virtual void cms::MessageProducer::setPriority (int *priority*) [pure virtual]

Sets the Priority that this Producers sends messages at.

Parameters:

priority int value for Priority level

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 880), **activemq::core::ActiveMQProducer** (p. 396), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 408).

Referenced by activemq::cmsutil::CachedProducer::setPriority().

6.421.3.20 virtual void cms::MessageProducer::setTimeToLive (long long *time*) [pure virtual]

Sets the Time to Live that this Producers sends messages with. This value will be used if the time to live is not specified via the send method.

Parameters:

time default time to live value in milliseconds

Exceptions:

CMSException *(*p. ***973****)* - if an internal error occurs.

Implemented in **activemq::cmsutil::CachedProducer** (p. 880), **activemq::core::ActiveMQProducer** (p. 396), and **activemq::core::kernels::ActiveMQProducerKernel** (p. 409).

Referenced by activemq::cmsutil::CachedProducer::setTimeToLive().

The documentation for this class was generated from the following file:

- src/main/cms/**MessageProducer.h**

6.422 activemq::wireformat::openwire::utils::MessagePropertyIntercepto Class Reference

Used the base ActiveMQMessage class to intercept calls to get and set properties in order to capture the calls that use the reserved JMS properties and get and set them in the OpenWire Message properties.

`#include <src/main/activemq/wireformat/openwire/utils/MessagePropertyInterceptor.h>`

Public Member Functions

- **MessagePropertyInterceptor** (**commands::Message** *message, **util::PrimitiveMap** *properties)

  Constructor, accepts the Message that will be used to store JMS reserved property values, and the PrimitiveMap to get and set the rest to.

- virtual ~**MessagePropertyInterceptor** ()
- virtual bool **getBooleanProperty** (const std::string &name) const

  Gets a boolean property.

- virtual unsigned char **getByteProperty** (const std::string &name) const

  Gets a byte property.

- virtual double **getDoubleProperty** (const std::string &name) const

  Gets a double property.

- virtual float **getFloatProperty** (const std::string &name) const

  Gets a float property.

- virtual int **getIntProperty** (const std::string &name) const

  Gets a int property.

- virtual long long **getLongProperty** (const std::string &name) const

  Gets a long property.

- virtual short **getShortProperty** (const std::string &name) const

  Gets a short property.

- virtual std::string **getStringProperty** (const std::string &name) const

  Gets a string property.

- virtual void **setBooleanProperty** (const std::string &name, bool value)

  Sets a boolean property.

- virtual void **setByteProperty** (const std::string &name, unsigned char value)

  Sets a byte property.

- virtual void **setDoubleProperty** (const std::string &name, double value)

  Sets a double property.

- virtual void **setFloatProperty** (const std::string &name, float value)

  Sets a float property.

- virtual void **setIntProperty** (const std::string &name, int value)

  Sets a int property.

- virtual void **setLongProperty** (const std::string &name, long long value)

  Sets a long property.

- virtual void **setShortProperty** (const std::string &name, short value)

  Sets a short property.

- virtual void **setStringProperty** (const std::string &name, const std::string &value)

  Sets a string property.

6.422.1 Detailed Description

Used the base ActiveMQMessage class to intercept calls to get and set properties in order to capture the calls that use the reserved JMS properties and get and set them in the OpenWire Message properties. Currently the only properties that are intercepted and handled are:

Name | Conversion Supported ---------- JMSXDeliveryCount | Int, Long, String JMSXGroupID | String JMSXGroupSeq | Int, Long, String

6.422.2 Constructor & Destructor Documentation

6.422.2.1 activemq::wireformat::openwire::utils::MessagePropertyInterceptor::MessagePropertyInte (commands::Message * *message*, util::PrimitiveMap * *properties*)

Constructor, accepts the Message that will be used to store JMS reserved property values, and the PrimitiveMap to get and set the rest to.

Parameters:

message - The Message to store reserved property data in

properties - The PrimitiveMap to store the rest of the properties in.

Exceptions:

NullPointerException if either param is NULL

6.422.2.2 virtual activemq::wireformat::openwire::utils::MessagePropertyInterceptor::~MessagePropertyInt () [virtual]

6.422.3 Member Function Documentation

6.422.3.1 virtual bool activemq::wireformat::openwire::utils::MessagePropertyInterceptor::getBooleanProperty (const std::string & *name*) const [virtual]

Gets a boolean property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

6.422.3.2 virtual unsigned char activemq::wireformat::openwire::utils::MessagePropertyInterceptor::getByteProperty (const std::string & *name*) const [virtual]

Gets a byte property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

6.422.3.3 virtual double activemq::wireformat::openwire::utils::MessagePropertyInterceptor::getDoubleProperty (const std::string & *name*) const [virtual]

Gets a double property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

6.422.3.4 virtual float activemq::wireformat::openwire::utils::MessagePropertyInterceptor::getFloatProperty (const std::string & *name*) const [virtual]

Gets a float property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

6.422.3.5 virtual int activemq::wireformat::openwire::utils::MessagePropertyInterceptor::getIntProperty (const std::string & *name*) const [virtual]

Gets a int property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

6.422.3.6 virtual long long activemq::wireformat::openwire::utils::MessagePropertyInterceptor::getLongProperty (const std::string & *name*) const [virtual]

Gets a long property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

6.422.3.7 virtual short activemq::wireformat::openwire::utils::MessagePropertyInterceptor::getShortProperty (const std::string & *name*) const [virtual]

Gets a short property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

6.422.3.8 virtual std::string activemq::wireformat::openwire::utils::MessagePropertyInterceptor::getStringProperty (const std::string & *name*) const [virtual]

Gets a string property.

Parameters:

name The name of the property to retrieve.

Returns:

The value for the named property.

6.422.3.9 virtual void activemq::wireformat::openwire::utils::MessagePropertyInterceptor::setBooleanProperty (const std::string & *name*, bool *value*) [virtual]

Sets a boolean property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

6.422.3.10 virtual void activemq::wireformat::openwire::utils::MessagePropertyInterceptor::setByteProperty (const std::string & *name*, unsigned char *value*) [virtual]

Sets a byte property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

6.422.3.11 virtual void activemq::wireformat::openwire::utils::MessagePropertyInterceptor::setDoubleProperty (const std::string & *name*, double *value*) [virtual]

Sets a double property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

6.422.3.12 virtual void activemq::wireformat::openwire::utils::MessagePropertyInterceptor::setFloatProperty (const std::string & *name*, float *value*) [virtual]

Sets a float property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

6.422.3.13 virtual void activemq::wireformat::openwire::utils::MessagePropertyInterceptor::setIntProperty (const std::string & *name*, int *value*) [virtual]

Sets a int property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

6.422.3.14 virtual void activemq::wireformat::openwire::utils::MessagePropertyInterceptor::setLongProperty (const std::string & *name*, long long *value*) [virtual]

Sets a long property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

6.422.3.15 virtual void activemq::wireformat::openwire::utils::MessagePropertyInterceptor::setShortProperty (const std::string & *name*, short *value*) [virtual]

Sets a short property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

6.422.3.16 virtual void activemq::wireformat::openwire::utils::MessagePropertyInterceptor::setStringProperty (const std::string & *name*, const std::string & *value*) [virtual]

Sets a string property.

Parameters:

name The name of the property to retrieve.

value The value for the named property.

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/utils/**MessagePropertyInterceptor.h**

6.423 activemq::commands::MessagePull Class Reference

`#include <src/main/activemq/commands/MessagePull.h>`Inheritance diagram for activemq::commands::MessagePull:

Public Member Functions

- **MessagePull** ()
- virtual ~**MessagePull** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **MessagePull** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **ConsumerId** > & **getConsumerId** () const
- virtual **Pointer**< **ConsumerId** > & **getConsumerId** ()
- virtual void **setConsumerId** (const **Pointer**< **ConsumerId** > &**consumerId**)
- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual long long **getTimeout** () const
- virtual void **setTimeout** (long long **timeout**)
- virtual const std::string & **getCorrelationId** () const
- virtual std::string & **getCorrelationId** ()
- virtual void **setCorrelationId** (const std::string &**correlationId**)
- virtual const **Pointer**< **MessageId** > & **getMessageId** () const
- virtual **Pointer**< **MessageId** > & **getMessageId** ()
- virtual void **setMessageId** (const **Pointer**< **MessageId** > &**messageId**)
- virtual bool **isMessagePull** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_MESSAGEPULL** = 20

Protected Attributes

- **Pointer< ConsumerId > consumerId**
- **Pointer< ActiveMQDestination > destination**
- long long **timeout**
- std::string **correlationId**
- **Pointer< MessageId > messageId**

6.423.1 Constructor & Destructor Documentation

6.423.1.1 activemq::commands::MessagePull::MessagePull ()

6.423.1.2 virtual activemq::commands::MessagePull::~MessagePull () [virtual]

6.423.2 Member Function Documentation

6.423.2.1 virtual MessagePull* activemq::commands::MessagePull::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.423.2.2 virtual void activemq::commands::MessagePull::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.423.2.3 virtual bool activemq::commands::MessagePull::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.423.2.4 virtual Pointer<ConsumerId>& activemq::commands::MessagePull::getConsumerId () [virtual]

6.423.2.5 virtual const Pointer<ConsumerId>& activemq::commands::MessagePull::getConsumerId () const [virtual]

6.423.2.6 virtual std::string& activemq::commands::MessagePull::getCorrelationId () [virtual]

6.423.2.7 virtual const std::string& activemq::commands::MessagePull::getCorrelationId () const [virtual]

6.423.2.8 virtual unsigned char activemq::commands::MessagePull::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.423.2.9 virtual Pointer<ActiveMQDestination>& activemq::commands::MessagePull::getDestination () [virtual]

6.423.2.10 virtual const Pointer<ActiveMQDestination>& activemq::commands::MessagePull::getDestination () const [virtual]

6.423.2.11 virtual Pointer<MessageId>& activemq::commands::MessagePull::getMessageId () [virtual]

6.423.2.12 virtual const Pointer<MessageId>& activemq::commands::MessagePull::getMessageId () const [virtual]

6.423.2.13 virtual long long activemq::commands::MessagePull::getTimeout () const [virtual]

6.423.2.14 virtual bool activemq::commands::MessagePull::isMessagePull () const [inline, virtual]

Returns:

an answer of true to the **isMessagePull()** (p. 2199) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 632).

6.423.2.15 virtual void activemq::commands::MessagePull::setConsumerId (const Pointer< ConsumerId > & *consumerId*) [virtual]

6.423.2.16 virtual void activemq::commands::MessagePull::setCorrelationId (const std::string & *correlationId*) [virtual]

6.423.2.17 virtual void activemq::commands::MessagePull::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.423.2.18 virtual void activemq::commands::MessagePull::setMessageId (const Pointer< MessageId > & *messageId*) [virtual]

6.423.2.19 virtual void activemq::commands::MessagePull::setTimeout (long long *timeout*) [virtual]

6.423.2.20 virtual std::string activemq::commands::MessagePull::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.423.2.21 virtual Pointer<Command> activemq::commands::MessagePull::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.423.3 Field Documentation

6.423.3.1 Pointer<ConsumerId> activemq::commands::MessagePull::consumerId [protected]

6.423.3.2 std::string activemq::commands::MessagePull::correlationId [protected]

6.423.3.3 Pointer<ActiveMQDestination> activemq::commands::MessagePull::destination [protected]

6.423.3.4 const unsigned char activemq::commands::MessagePull::ID_MESSAGEPULL = 20 [static]

6.423.3.5 Pointer<MessageId> activemq::commands::MessagePull::messageId [protected]

6.423.3.6 long long activemq::commands::MessagePull::timeout [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**MessagePull.h**

6.424 activemq::wireformat::openwire::marshal::generated::MessagePull Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **MessagePullMarshaller** (p. 2202).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/MessagePullMarshaller.h>`Inherit diagram for activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller:

Public Member Functions

- **MessagePullMarshaller** ()
- virtual ~**MessagePullMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.424.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **MessagePullMarshaller** (p. 2202). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.424.2 Constructor & Destructor Documentation

6.424.2.1 activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller::MessagePull () [inline]

6.424.2.2 virtual activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller::~MessagePu () [inline, virtual]

6.424.3 Member Function Documentation

6.424.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.424.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller::getDataStructu () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.424.3.3 virtual void activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.424.3.4 virtual void activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller::looseUnmarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.424.3.5 virtual int activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.424.3.6 virtual void activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.424.3.7 virtual void activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller::tightUnmarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**MessagePullMarshaller.h**

6.425 cms::MessageTransformer Class Reference

Provides an interface for clients to transform **cms::Message** (p. 2077) objects inside the CMS **MessageProducer** (p. 2179) and **MessageConsumer** (p. 2114) objects before the message's are sent or received.

`#include <src/main/cms/MessageTransformer.h>`

Public Member Functions

- virtual ~**MessageTransformer** ()
- virtual bool **producerTransform** (**cms::Session** *session, **cms::MessageProducer** *producer, **cms::Message** *message, **cms::Message** **transformed)=0

  Transforms the given message inside the producer before it is sent to the CMS bus.

- virtual bool **consumerTransform** (**cms::Session** *session, **cms::MessageConsumer** *consumer, **cms::Message** *message, **cms::Message** **transformed)=0

  Transforms the given message inside the consumer before it is dispatched to the client ***code*** *(p. 999).*

6.425.1 Detailed Description

Provides an interface for clients to transform **cms::Message** (p. 2077) objects inside the CMS **MessageProducer** (p. 2179) and **MessageConsumer** (p. 2114) objects before the message's are sent or received.

Since:

3.0

6.425.2 Constructor & Destructor Documentation

6.425.2.1 virtual cms::MessageTransformer::~MessageTransformer () [virtual]

6.425.3 Member Function Documentation

6.425.3.1 virtual bool cms::MessageTransformer::consumerTransform (cms::Session * *session*, cms::MessageConsumer * *consumer*, cms::Message * *message*, cms::Message ** *transformed*) [pure virtual]

Transforms the given message inside the consumer before it is dispatched to the client **code** (p. 999). The contract of this method is that the resulting transformed message pointer is set if and only if the method actually creates a new **cms::Message** (p. 2077) object, otherwise it must always be set to NULL. The return value indicates whether a transformation took place and indicates that the resulting transformed **cms::Message** (p. 2077) pointer will need to be deleted once the consumer completed message dispatch.

Parameters:

session The **Session** (p. 2665) used to create the target **MessageConsumer** (p. 2114) for this transformation.

consumer The **MessageConsumer** (p. 2114) instance that is going to handle dispatching the transformed **Message** (p. 2077).

message The CMS **Message** (p. 2077) object that is to be transformed by this method.

transformed A pointer to the location in memory where the newly transformed **Message** (p. 2077) has been allocated.

Returns:

true if the **MessageConsumer** (p. 2114) should handle deleting the transformed **Message** (p. 2077) once sent.

Exceptions:

cms::CMSException *(*p. ***973)*** if an error occurs during the transform operation.

6.425.3.2 virtual bool cms::MessageTransformer::producerTransform (cms::Session * *session*, cms::MessageProducer * *producer*, cms::Message * *message*, cms::Message ** *transformed*) [pure virtual]

Transforms the given message inside the producer before it is sent to the CMS bus. The contract of this method is that the resulting transformed message pointer is set if and only if the method actually creates a new **cms::Message** (p. 2077) object, otherwise it must always be set to NULL. The return value indicates whether a transformation took place and indicates that the resulting transformed **cms::Message** (p. 2077) pointer will need to be deleted once the producer has sent the **cms::Message** (p. 2077) on to the CMS bus.

Parameters:

session The **Session** (p. 2665) used to create the target **MessageProducer** (p. 2179) for this transformation.

producer The **MessageProducer** (p. 2179) instance that is going to handle sending the transformed **Message** (p. 2077).

message The CMS **Message** (p. 2077) object that is to be transformed by this method.

transformed A pointer to the location in memory where the newly transformed **Message** (p. 2077) has been allocated.

Returns:

true if the **MessageProducer** (p. 2179) should handle deleting the transformed **Message** (p. 2077) once sent.

Exceptions:

cms::CMSException *(*p. ***973)*** if an error occurs during the transform operation.

The documentation for this class was generated from the following file:

- src/main/cms/**MessageTransformer.h**

6.426 activemq::transport::mock::MockTransport Class Reference

The **MockTransport** (p. 2208) defines a base level **Transport** (p. 3109) class that is intended to be used in place of an a regular protocol **Transport** (p. 3109) suck as TCP.

`#include <src/main/activemq/transport/mock/MockTransport.h>`Inheritance diagram for activemq::transport::mock::MockTransport:

Public Member Functions

- **MockTransport** (const **Pointer**< **wireformat::WireFormat** > wireFormat, const **Pointer**< **ResponseBuilder** > responseBuilder)
- virtual ~**MockTransport** ()
- virtual void **fireCommand** (const **Pointer**< **Command** > command)

  *Fires a Command back through this **transport** (p. 72) to its registered CommandListener if there is one.*

- virtual void **fireException** (const **exceptions::ActiveMQException** &ex)

  *Fires a Exception back through this **transport** (p. 72) to its registered ExceptionListener if there is one.*

- void **setResponseBuilder** (const **Pointer**< **ResponseBuilder** > responseBuilder)

  *Sets the **ResponseBuilder** (p. 2595) that this class uses to create Responses to Commands sent.*

- virtual void **setOutgoingListener** (**TransportListener** *listener)

  *Sets a Listener that gets notified for every command that would have been sent by this **transport** (p. 72) to the Broker, this allows a client to verify that its messages are making it to the wire.*

- **Pointer**< **wireformat::WireFormat** > **getWireFormat** () const

  Gets the currently set WireFormat.

- virtual void **oneway** (const **Pointer**< **Command** > command)

  Sends a one-way command.

- virtual **Pointer**< **FutureResponse** > **asyncRequest** (const **Pointer**< **Command** > command, const **Pointer**< **ResponseCallback** > responseCallback)

  *Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.*

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command)

  Sends the given command to the broker and then waits for the response.

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command, unsigned int timeout)

  Sends the given command to the broker and then waits for the response.

- virtual void **setWireFormat** (const **Pointer**< **wireformat::WireFormat** > wireFormat AMQCPP_UNUSED)

Sets the WireFormat instance to use.

- virtual void **setTransportListener** (**TransportListener** *listener)

  *Sets the observer of asynchronous events from this **transport*** (p. *72*).

- virtual **TransportListener** * **getTransportListener** () const

  *Gets the observer of asynchronous events from this **transport*** (p. *72*).

- virtual void **start** ()

  *Starts the **Transport*** (p. *3109*), *the send methods of a **Transport*** (p. *3109*) *will throw an exception if used before the **Transport*** (p. *3109*) *is started.*

- virtual void **stop** ()

  *Stops the **Transport*** (p. *3109*).

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual **Transport** * **narrow** (const std::type_info &typeId)

  *Narrows down a Chain of Transports to a specific **Transport*** (p. *3109*) *to allow a higher level **transport*** (p. *72*) *to skip intermediate Transports in certain circumstances.*

- virtual bool **isFaultTolerant** () const

  *Is this **Transport*** (p. *3109*) *fault tolerant, meaning that it will reconnect to a broker on disconnect.*

- virtual bool **isConnected** () const

  *Is the **Transport*** (p. *3109*) *Connected to its Broker.*

- virtual bool **isClosed** () const

  *Has the **Transport*** (p. *3109*) *been shutdown and no longer usable.*

- virtual std::string **getRemoteAddress** () const
- virtual void **reconnect** (const **decaf::net::URI** &uri AMQCPP_UNUSED)
- std::string **getName** () const
- void **setName** (const std::string &name)
- bool **isFailOnSendMessage** () const
- void **setFailOnSendMessage** (bool value)
- int **getNumSentMessageBeforeFail** () const
- void **setNumSentMessageBeforeFail** (int value)
- int **getNumSentMessages** () const
- void **setNumSentMessages** (int value)
- bool **isFailOnReceiveMessage** () const
- void **setFailOnReceiveMessage** (bool value)
- int **getNumReceivedMessageBeforeFail** () const
- void **setNumReceivedMessageBeforeFail** (int value)
- int **getNumReceivedMessages** () const
- void **setNumReceivedMessages** (int value)
- bool **isFailOnKeepAliveSends** () const
- void **setFailOnKeepAliveSends** (bool value)
- int **getNumSentKeepAlivesBeforeFail** () const

- void **setNumSentKeepAlivesBeforeFail** (int value)
- int **getNumSentKeepAlives** () const
- void **setNumSentKeepAlives** (int value)
- bool **isFailOnStart** () const
- void **setFailOnStart** (bool value)
- bool **isFailOnStop** () const
- void **setFailOnStop** (bool value)
- bool **isFailOnClose** () const
- void **setFailOnClose** (bool value)
- virtual bool **isReconnectSupported** () const
- virtual bool **isUpdateURIsSupported** () const
- virtual void **updateURIs** (bool rebalance AMQCPP_UNUSED, const **decaf::util::List**< **decaf::net::URI** > &uris AMQCPP_UNUSED)

Static Public Member Functions

- static **MockTransport** * **getInstance** ()

6.426.1 Detailed Description

The **MockTransport** (p. 2208) defines a base level **Transport** (p. 3109) class that is intended to be used in place of an a regular protocol **Transport** (p. 3109) suck as TCP. This **Transport** (p. 3109) assumes that it is the base **Transport** (p. 3109) in the Transports stack, and destroys any Transports that are passed to it in its constructor.

This **Transport** (p. 3109) defines an Interface **ResponseBuilder** (p. 2595) which must be implemented by any protocol for which the **Transport** (p. 3109) is used to Emulate. The **Transport** (p. 3109) hands off all outbound **commands** (p. 61) to the **ResponseBuilder** (p. 2595) for processing, it is up to the builder to create appropriate responses and schedule any asynchronous messages that might result from a message sent to the Broker.

6.426.2 Constructor & Destructor Documentation

6.426.2.1 activemq::transport::mock::MockTransport::MockTransport (const Pointer< wireformat::WireFormat > *wireFormat*, const Pointer< ResponseBuilder > *responseBuilder*)

6.426.2.2 virtual activemq::transport::mock::MockTransport::~MockTransport () [inline, virtual]

6.426.3 Member Function Documentation

6.426.3.1 virtual Pointer<FutureResponse> activemq::transport::mock::MockTransport::asyncRequest (const Pointer< Command > *command*, const Pointer< ResponseCallback > *responseCallback*) [virtual]

Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.

Parameters:

command The Command object that is to sent out.

responseCallback A callback object that will be notified once a response to the command is received.

Returns:

A **FutureResponse** (p. 1560) instance that can be queried for the Response to the Command.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3110).

6.426.3.2 virtual void activemq::transport::mock::MockTransport::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

IOException if an error occurs while closing.

Implements **decaf::io::Closeable** (p. 961).

6.426.3.3 virtual void activemq::transport::mock::MockTransport::fireCommand (const Pointer< Command > *command*) [inline, virtual]

Fires a Command back through this **transport** (p. 72) to its registered CommandListener if there is one.

Parameters:

command - Command to send to the Listener.

References NULL.

6.426.3.4 virtual void activemq::transport::mock::MockTransport::fireException (const exceptions::ActiveMQException & *ex*) [inline, virtual]

Fires a Exception back through this **transport** (p. 72) to its registered ExceptionListener if there is one.

Parameters:

ex The Exception that will be passed on the the **Transport** (p. 3109) listener.

References NULL.

6.426.3.5 static MockTransport* activemq::transport::mock::MockTransport::getInstance () [inline, static]

6.426.3.6 std::string activemq::transport::mock::MockTransport::getName () const [inline]

6.426.3.7 int activemq::transport::mock::MockTransport::getNumReceivedMessageBeforeFail () const [inline]

6.426.3.8 int activemq::transport::mock::MockTransport::getNumReceivedMessages () const [inline]

6.426.3.9 int activemq::transport::mock::MockTransport::getNumSentKeepAlives () const [inline]

6.426.3.10 int activemq::transport::mock::MockTransport::getNumSentKeepAlivesBeforeFail () const [inline]

6.426.3.11 int activemq::transport::mock::MockTransport::getNumSentMessageBeforeFail () const [inline]

6.426.3.12 int activemq::transport::mock::MockTransport::getNumSentMessages () const [inline]

6.426.3.13 virtual std::string activemq::transport::mock::MockTransport::getRemoteAddress () const [inline, virtual]

Returns:

the remote address for this connection

Implements **activemq::transport::Transport** (p. 3111).

6.426.3.14 virtual TransportListener* activemq::transport::mock::MockTransport::getTransportListener () const [inline, virtual]

Gets the observer of asynchronous events from this **transport** (p. 72).

Returns:

the listener of **transport** (p. 72) events.

Implements **activemq::transport::Transport** (p. 3111).

6.426.3.15 Pointer<wireformat::WireFormat> activemq::transport::mock::MockTransport::getWireFormat () const [inline, virtual]

Gets the currently set WireFormat.

Returns:

the current WireFormat object.

Implements **activemq::transport::Transport** (p. 3111).

6.426.3.16 virtual bool activemq::transport::mock::MockTransport::isClosed () const [inline, virtual]

Has the **Transport** (p. 3109) been shutdown and no longer usable.

Returns:

true if the **Transport** (p. 3109)

Implements **activemq::transport::Transport** (p. 3112).

6.426.3.17 virtual bool activemq::transport::mock::MockTransport::isConnected () const [inline, virtual]

Is the **Transport** (p. 3109) Connected to its Broker.

Returns:

true if a connection has been made.

Implements **activemq::transport::Transport** (p. 3112).

6.426.3.18 bool activemq::transport::mock::MockTransport::isFailOnClose () const [inline]

6.426.3.19 bool activemq::transport::mock::MockTransport::isFailOnKeepAliveSends () const [inline]

6.426.3.20 bool activemq::transport::mock::MockTransport::isFailOnReceiveMessage () const [inline]

6.426.3.21 bool activemq::transport::mock::MockTransport::isFailOnSendMessage () const [inline]

6.426.3.22 bool activemq::transport::mock::MockTransport::isFailOnStart () const [inline]

6.426.3.23 bool activemq::transport::mock::MockTransport::isFailOnStop () const [inline]

6.426.3.24 virtual bool activemq::transport::mock::MockTransport::isFaultTolerant () const [inline, virtual]

Is this **Transport** (p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.

Returns:

true if the **Transport** (p. 3109) is fault tolerant.

Implements **activemq::transport::Transport** (p. 3112).

6.426.3.25 virtual bool activemq::transport::mock::MockTransport::isReconnectSupported () const [inline, virtual]

Returns:

true if reconnect is supported.

Implements **activemq::transport::Transport** (p. 3112).

6.426.3.26 virtual bool activemq::transport::mock::MockTransport::isUpdateURIsSupported () const [inline, virtual]

Returns:

true if updating uris is supported.

Implements **activemq::transport::Transport** (p. 3113).

6.426.3.27 virtual Transport* activemq::transport::mock::MockTransport::narrow (const std::type_info & *typeId*) [inline, virtual]

Narrows down a Chain of Transports to a specific **Transport** (p. 3109) to allow a higher level **transport** (p. 72) to skip intermediate Transports in certain circumstances.

Parameters:

typeId - The type_info of the Object we are searching for.

Returns:

the requested Object. or NULL if its not in this chain.

Implements **activemq::transport::Transport** (p. 3113).

References NULL.

6.426.3.28 virtual void activemq::transport::mock::MockTransport::oneway (const Pointer< Command > *command*) [virtual]

Sends a one-way command. Does not wait for any response from the broker.

Parameters:

command The command to be sent.

Exceptions:

IOException if an exception occurs during writing of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3113).

6.426.3.29 virtual void activemq::transport::mock::MockTransport::reconnect (const decaf::net::URI &uri *AMQCPP_UNUSED*) [inline, virtual]

6.426.3.30 virtual Pointer<Response> activemq::transport::mock::MockTransport::request (const Pointer< Command > *command*, unsigned int *timeout*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command The command to be sent.

timeout The time to wait for this response.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3114).

6.426.3.31 virtual Pointer<Response> activemq::transport::mock::MockTransport::request (const Pointer< Command > *command*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command the command to be sent.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3114).

6.426.3.32 void activemq::transport::mock::MockTransport::setFailOnClose (bool *value*) [inline]

6.426.3.33 void activemq::transport::mock::MockTransport::setFailOnKeepAliveSends (bool *value*) [inline]

6.426.3.34 void activemq::transport::mock::MockTransport::setFailOnReceiveMessage (bool *value*) [inline]

6.426.3.35 void activemq::transport::mock::MockTransport::setFailOnSendMessage (bool *value*) [inline]

6.426.3.36 void activemq::transport::mock::MockTransport::setFailOnStart (bool *value*) [inline]

6.426.3.37 void activemq::transport::mock::MockTransport::setFailOnStop (bool *value*) [inline]

6.426.3.38 void activemq::transport::mock::MockTransport::setName (const std::string & *name*) [inline]

6.426.3.39 void activemq::transport::mock::MockTransport::setNumReceivedMessageBeforeFail (int *value*) [inline]

6.426.3.40 void activemq::transport::mock::MockTransport::setNumReceivedMessages (int *value*) [inline]

6.426.3.41 void activemq::transport::mock::MockTransport::setNumSentKeepAlives (int *value*) [inline]

6.426.3.42 void activemq::transport::mock::MockTransport::setNumSentKeepAlivesBeforeFail (int *value*) [inline]

6.426.3.43 void activemq::transport::mock::MockTransport::setNumSentMessageBeforeFail (int *value*) [inline]

6.426.3.44 void activemq::transport::mock::MockTransport::setNumSentMessages (int *value*) [inline]

6.426.3.45 virtual void activemq::transport::mock::MockTransport::setOutgoingListener (TransportListener * *listener*) [inline, virtual]

Sets a Listener that gets notified for every command that would have been sent by this **transport** (p. 72) to the Broker, this allows a client to verify that its messages are making it to the wire.

Parameters:

listener - The CommandListener to notify for each message

6.426.3.46 void activemq::transport::mock::MockTransport::setResponseBuilder (const Pointer< ResponseBuilder > *responseBuilder*) [inline]

Sets the **ResponseBuilder** (p. 2595) that this class uses to create Responses to Commands sent. These are either real Response Objects, or Commands that would have been sent Asynchronously be the Broker.

Parameters:

responseBuilder - The **ResponseBuilder** (p. 2595) to use from now on.

6.426.3.47 virtual void activemq::transport::mock::MockTransport::setTransportListener (TransportListener * *listener*) [inline, virtual]

Sets the observer of asynchronous events from this **transport** (p. 72).

Parameters:

listener the listener of **transport** (p. 72) events.

Implements **activemq::transport::Transport** (p. 3115).

6.426.3.48 virtual void activemq::transport::mock::MockTransport::setWireFormat (const Pointer< wireformat::WireFormat > wireFormat *wireFormat*) [inline, virtual]

Sets the WireFormat instance to use.

Parameters:

wireFormat The WireFormat the object used to encode / decode **commands** (p. 61).

Implements **activemq::transport::Transport** (p. 3115).

6.426.3.49 virtual void activemq::transport::mock::MockTransport::start () [virtual]

Starts the **Transport** (p. 3109), the send methods of a **Transport** (p. 3109) will throw an exception if used before the **Transport** (p. 3109) is started.

Exceptions:

IOException if and error occurs while starting the **Transport** (p. 3109).

Implements **activemq::transport::Transport** (p. 3115).

6.426.3.50 virtual void activemq::transport::mock::MockTransport::stop () [virtual]

Stops the **Transport** (p. 3109).

Exceptions:

IOException if an error occurs while stopping the **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3116).

6.426.3.51 virtual void activemq::transport::mock::MockTransport::updateURIs (bool rebalance *AMQCPP_UNUSED*, const decaf::util::List< decaf::net::URI > &uris *AMQCPP_UNUSED*) [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/activemq/transport/mock/**MockTransport.h**

6.427 activemq::transport::mock::MockTransportFactory Class Reference

Manufactures MockTransports, which are objects that read from input streams and write to output streams.

`#include <src/main/activemq/transport/mock/MockTransportFactory.h>`Inheritance diagram for activemq::transport::mock::MockTransportFactory:

Public Member Functions

- virtual ~**MockTransportFactory** ()
- virtual **Pointer< Transport > create** (const **decaf::net::URI** &location)

  *Creates a fully configured **Transport** (p. 3109) instance which could be a chain of filters and transports.*

- virtual **Pointer< Transport > createComposite** (const **decaf::net::URI** &location)

  *Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.*

Protected Member Functions

- virtual **Pointer< Transport > doCreateComposite** (const **decaf::net::URI** &location, const **Pointer< wireformat::WireFormat >** wireFormat, const **decaf::util::Properties** &properties)

  *Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.*

6.427.1 Detailed Description

Manufactures MockTransports, which are objects that read from input streams and write to output streams.

6.427.2 Constructor & Destructor Documentation

6.427.2.1 virtual activemq::transport::mock::MockTransportFactory::~MockTransportFactory () [inline, virtual]

6.427.3 Member Function Documentation

6.427.3.1 virtual Pointer<Transport> activemq::transport::mock::MockTransportFactory::create (const decaf::net::URI & *location*) [virtual]

Creates a fully configured **Transport** (p. 3109) instance which could be a chain of filters and transports.

Parameters:

location - URI location to connect to plus any properties to assign.

Exceptions:

ActiveMQexception if an error occurs

Implements **activemq::transport::TransportFactory** (p. 3117).

6.427.3.2 virtual Pointer<Transport> activemq::transport::mock::MockTransportFactory::createComposite (const decaf::net::URI & *location*) [virtual]

Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.

Parameters:

location - URI location to connect to plus any properties to assign.

Exceptions:

ActiveMQexception if an error occurs

Implements **activemq::transport::TransportFactory** (p. 3118).

6.427.3.3 virtual Pointer<Transport> activemq::transport::mock::MockTransportFactory::doCreateComposite (const decaf::net::URI & *location*, const Pointer< wireformat::WireFormat > *wireFormat*, const decaf::util::Properties & *properties*) [protected, virtual]

Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.

Parameters:

location - URI location to connect to.

wireFormat - the assigned WireFormat for the new **Transport** (p. 3109).

properties - Properties to apply to the **transport** (p. 72).

Returns:

Pointer to a new **Transport** (p. 3109) instance.

Exceptions:

ActiveMQexception if an error occurs

The documentation for this class was generated from the following file:

- src/main/activemq/transport/mock/**MockTransportFactory.h**

6.428 decaf::internal::util::concurrent::MonitorHandle Struct Reference

`#include <src/main/decaf/internal/util/concurrent/ThreadingTypes.h>`

Data Fields

- char * **name**
- **decaf_mutex_t mutex**
- **decaf_mutex_t lock**
- unsigned int **count**
- **ThreadHandle * owner**
- **ThreadHandle * waiting**
- **ThreadHandle * blocking**
- bool **initialized**
- **MonitorHandle * next**

6.428.1 Field Documentation

6.428.1.1 ThreadHandle* decaf::internal::util::concurrent::MonitorHandle::blocking

6.428.1.2 unsigned int decaf::internal::util::concurrent::MonitorHandle::count

6.428.1.3 bool decaf::internal::util::concurrent::MonitorHandle::initialized

6.428.1.4 decaf_mutex_t decaf::internal::util::concurrent::MonitorHandle::lock

6.428.1.5 decaf_mutex_t decaf::internal::util::concurrent::MonitorHandle::mutex

6.428.1.6 char* decaf::internal::util::concurrent::MonitorHandle::name

6.428.1.7 MonitorHandle* decaf::internal::util::concurrent::MonitorHandle::next

6.428.1.8 ThreadHandle* decaf::internal::util::concurrent::MonitorHandle::owner

6.428.1.9 ThreadHandle* decaf::internal::util::concurrent::MonitorHandle::waiting

The documentation for this struct was generated from the following file:

- src/main/decaf/internal/util/concurrent/**ThreadingTypes.h**

6.429 decaf::util::concurrent::Mutex Class Reference

Mutex (p. 2223) object that offers recursive support on all platforms as well as providing the ability to use the standard wait / notify pattern used in languages like Java.

`#include <src/main/decaf/util/concurrent/Mutex.h>`Inheritance diagram for decaf::util::concurrent::Mutex:

Public Member Functions

- **Mutex** ()
- **Mutex** (const std::string &name)
- virtual ~**Mutex** ()
- std::string **getName** () const
- std::string **toString** () const
- bool **isLocked** () const
- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

  *Attempts to **Lock** (p. 1911) the object, if the lock is already held by another thread than this method returns false.*

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

6.429.1 Detailed Description

Mutex (p. 2223) object that offers recursive support on all platforms as well as providing the ability to use the standard wait / notify pattern used in languages like Java.

Since:

1.0

6.429.2 Constructor & Destructor Documentation

6.429.2.1 decaf::util::concurrent::Mutex::Mutex ()

6.429.2.2 decaf::util::concurrent::Mutex::Mutex (const std::string & *name*)

6.429.2.3 virtual decaf::util::concurrent::Mutex::~Mutex () [virtual]

6.429.3 Member Function Documentation

6.429.3.1 std::string decaf::util::concurrent::Mutex::getName () const

6.429.3.2 bool decaf::util::concurrent::Mutex::isLocked () const

6.429.3.3 virtual void decaf::util::concurrent::Mutex::lock () [virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

Referenced by decaf::util::StlQueue< T >::lock(), decaf::util::StlMap< std::string, cms::Topic * >::lock(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::lock(), decaf::util::AbstractMap< E, Set< E > * >::lock(), and decaf::util::AbstractCollection< K >::lock().

6.429.3.4 virtual void decaf::util::concurrent::Mutex::notify () [virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

Referenced by decaf::util::StlQueue< T >::notify(), decaf::util::StlMap< std::string, cms::Topic * >::notify(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::notify(), decaf::util::AbstractMap< E, Set< E > * >::notify(), and decaf::util::AbstractCollection< K >::notify().

6.429.3.5 virtual void decaf::util::concurrent::Mutex::notifyAll () [virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

Referenced by decaf::util::StlQueue< T >::notifyAll(), decaf::util::StlMap< std::string, cms::Topic * >::notifyAll(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::notifyAll(), decaf::util::AbstractMap< E, Set< E > * >::notifyAll(), and decaf::util::AbstractCollection< K >::notifyAll().

6.429.3.6 std::string decaf::util::concurrent::Mutex::toString () const

6.429.3.7 virtual bool decaf::util::concurrent::Mutex::tryLock () [virtual]

Attempts to **Lock** (p. 1911) the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

Referenced by decaf::util::StlQueue< T >::tryLock(), decaf::util::StlMap< std::string, cms::Topic * >::tryLock(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::tryLock(), decaf::util::AbstractMap< E, Set< E > * >::tryLock(), and decaf::util::AbstractCollection< K >::tryLock().

6.429.3.8 virtual void decaf::util::concurrent::Mutex::unlock () [virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

Referenced by decaf::util::StlQueue< T >::unlock(), decaf::util::StlMap< std::string, cms::Topic * >::unlock(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::unlock(), decaf::util::AbstractMap< E, Set< E > * >::unlock(), and decaf::util::AbstractCollection< K >::unlock().

6.429.3.9 virtual void decaf::util::concurrent::Mutex::wait (long long *millisecs*, int *nanos*) [virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is

similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.429.3.10 virtual void decaf::util::concurrent::Mutex::wait (long long *millisecs*) [virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.429.3.11 virtual void decaf::util::concurrent::Mutex::wait () [virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

Referenced by decaf::util::StlQueue< T >::wait(), decaf::util::StlMap< std::string, cms::Topic * >::wait(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::wait(), decaf::util::AbstractMap< E, Set< E > * >::wait(), and decaf::util::AbstractCollection< K >::wait().

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Mutex.h**

6.430 decaf::lang::exceptions::NegativeArraySizeException Class Reference

`#include <src/main/decaf/lang/exceptions/NegativeArraySizeException.h>`Inheritance diagram for decaf::lang::exceptions::NegativeArraySizeException:

Public Member Functions

- **NegativeArraySizeException** ()
  Default Constructor.
- **NegativeArraySizeException** (const **Exception** &ex)
  *Conversion Constructor from some other Decaf **Exception** (p. 1445).*
- **NegativeArraySizeException** (const **NegativeArraySizeException** &ex)
  Copy Constructor.
- **NegativeArraySizeException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **NegativeArraySizeException** (const std::exception *cause)
  Constructor.
- **NegativeArraySizeException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **NegativeArraySizeException** * **clone** () const
  Clones this exception.
- virtual ~**NegativeArraySizeException** () throw ()

6.430.1 Constructor & Destructor Documentation

6.430.1.1 decaf::lang::exceptions::NegativeArraySizeException::NegativeArraySizeException ()

Default Constructor.

6.430.1.2 decaf::lang::exceptions::NegativeArraySizeException::NegativeArraySizeException (const Exception & *ex*)

Conversion Constructor from some other Decaf **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.430.1.3 decaf::lang::exceptions::NegativeArraySizeException::NegativeArraySizeException (const NegativeArraySizeException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.430.1.4 decaf::lang::exceptions::NegativeArraySizeException::NegativeArraySizeException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.430.1.5 decaf::lang::exceptions::NegativeArraySizeException::NegativeArraySizeException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.430.1.6 decaf::lang::exceptions::NegativeArraySizeException::NegativeArraySizeException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.430.1.7 virtual decaf::lang::exceptions::NegativeArraySizeException::~NegativeArraySizeException () throw () [virtual]

6.430.2 Member Function Documentation

6.430.2.1 virtual NegativeArraySizeException* decaf::lang::exceptions::NegativeArraySizeException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) that is a copy of this one.

Reimplemented from **decaf::lang::exceptions::RuntimeException** (p. 2613).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**NegativeArraySizeException.h**

6.431 decaf::internal::net::Network Class Reference

Internal class used to manage Networking related resources and hide platform dependent calls from the higher level API.

`#include <src/main/decaf/internal/net/Network.h>`

Public Member Functions

- virtual ~**Network** ()
- **decaf::util::concurrent::Mutex** * **getRuntimeLock** ()

  *Gets a pointer to the **Network** (p. 2231) Runtime's Lock object, this can be used by **Network** (p. 2231) layer APIs to synchronize around certain actions such as adding a resource to the **Network** (p. 2231) layer, etc.*

- void **addNetworkResource** (**decaf::internal::util::Resource** *value)

  *Adds a Resource to the **Network** (p. 2231) Runtime, this resource will be held by the runtime until the Library shutdown method is called at which time all the Resources held by the **Network** (p. 2231) Runtime are destroyed.*

- template<typename T >
  void **addAsResource** (T *value)
- void **addShutdownTask** (**decaf::lang::Runnable** *task)

  *Register a Runnable to be called when the **Network** (p. 2231) Runtime is shutdown to provide a chance to cleanup any data or references that could cause problems should the **Network** (p. 2231) Runtime be re-initialized.*

Static Public Member Functions

- static **Network** * **getNetworkRuntime** ()

  *Gets the one and only instance of the **Network** (p. 2231) class, if this is called before the **Network** (p. 2231) layer has been initialized or after it has been shutdown then an IllegalStateException is thrown.*

- static void **initializeNetworking** ()

  Initialize the Networking layer.

- static void **shutdownNetworking** ()

  *Shutdown the **Network** (p. 2231) layer and free any associated resources, classes in the Decaf library that use the networking layer will now fail if used after calling the shutdown method.*

Protected Member Functions

- **Network** ()

6.431.1 Detailed Description

Internal class used to manage Networking related resources and hide platform dependent calls from the higher level API.

Since:

1.0

6.431.2 Constructor & Destructor Documentation

6.431.2.1 decaf::internal::net::Network::Network () [protected]

6.431.2.2 virtual decaf::internal::net::Network::~Network () [virtual]

6.431.3 Member Function Documentation

6.431.3.1 template<typename T > void decaf::internal::net::Network::addAsResource (T * *value*) [inline]

6.431.3.2 void decaf::internal::net::Network::addNetworkResource (decaf::internal::util::Resource * *value*)

Adds a Resource to the **Network** (p. 2231) Runtime, this resource will be held by the runtime until the Library shutdown method is called at which time all the Resources held by the **Network** (p. 2231) Runtime are destroyed.

Parameters:

value The Resource to add to the **Network** (p. 2231) Runtime.

Exceptions:

NullPointerException if the Resource value passed is null.

6.431.3.3 void decaf::internal::net::Network::addShutdownTask (decaf::lang::Runnable * *task*)

Register a Runnable to be called when the **Network** (p. 2231) Runtime is shutdown to provide a chance to cleanup any data or references that could cause problems should the **Network** (p. 2231) Runtime be re-initialized. The Runnable pointer ownership is transfered to the NetworkRuntime to guarantee the timing of resource cleanup.

The cleanup tasks are run at a critical time in the Shutdown process and should be as simple as possible and make every attempt to not throw any exceptions. If an exception is thrown it is ignored and processing of the next task is started.

The tasks should not assume that any **Network** (p. 2231) resources are still available and should execute as quickly as possible.

Parameters:

task Pointer to a Runnable object that will now be owned by the **Network** (p. 2231) Runtime.

6.431.3.4 static Network* decaf::internal::net::Network::getNetworkRuntime () [static]

Gets the one and only instance of the **Network** (p. 2231) class, if this is called before the **Network** (p. 2231) layer has been initialized or after it has been shutdown then an IllegalStateException is thrown.

Returns:

pointer to the **Network** (p. 2231) runtime for the Decaf library.

6.431.3.5 decaf::util::concurrent::Mutex* decaf::internal::net::Network::getRuntimeLock ()

Gets a pointer to the **Network** (p. 2231) Runtime's Lock object, this can be used by **Network** (p. 2231) layer APIs to synchronize around certain actions such as adding a resource to the **Network** (p. 2231) layer, etc. The pointer returned is owned by the **Network** (p. 2231) runtime and should not be deleted or copied by the caller.

Returns:

a pointer to the **Network** (p. 2231) Runtime's single Lock instance.

6.431.3.6 static void decaf::internal::net::Network::initializeNetworking () [static]

Initialize the Networking layer.

6.431.3.7 static void decaf::internal::net::Network::shutdownNetworking () [static]

Shutdown the **Network** (p. 2231) layer and free any associated resources, classes in the Decaf library that use the networking layer will now fail if used after calling the shutdown method.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/**Network.h**

6.432 activemq::commands::NetworkBridgeFilter Class Reference

`#include <src/main/activemq/commands/NetworkBridgeFilter.h>`Inheritance diagram for activemq::commands::NetworkBridgeFilter:

Public Member Functions

- **NetworkBridgeFilter** ()
- virtual ~**NetworkBridgeFilter** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **NetworkBridgeFilter** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual int **getNetworkTTL** () const
- virtual void **setNetworkTTL** (int **networkTTL**)
- virtual const **Pointer**< **BrokerId** > & **getNetworkBrokerId** () const
- virtual **Pointer**< **BrokerId** > & **getNetworkBrokerId** ()
- virtual void **setNetworkBrokerId** (const **Pointer**< **BrokerId** > &**networkBrokerId**)

Static Public Attributes

- static const unsigned char **ID_NETWORKBRIDGEFILTER** = 91

Protected Attributes

- int **networkTTL**
- **Pointer**< **BrokerId** > **networkBrokerId**

6.432.1 Constructor & Destructor Documentation

6.432.1.1 activemq::commands::NetworkBridgeFilter::NetworkBridgeFilter ()

6.432.1.2 virtual activemq::commands::NetworkBridgeFilter::~NetworkBridgeFilter () [virtual]

6.432.2 Member Function Documentation

6.432.2.1 virtual NetworkBridgeFilter* activemq::commands::NetworkBridgeFilter::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.432.2.2 virtual void activemq::commands::NetworkBridgeFilter::copyDataStructure (const DataStructure * *src*) [virtual]

6.432.2.3 virtual bool activemq::commands::NetworkBridgeFilter::equals (const DataStructure * *value*) const [virtual]

6.432.2.4 virtual unsigned char activemq::commands::NetworkBridgeFilter::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.432.2.5 virtual Pointer<BrokerId>& activemq::commands::NetworkBridgeFilter::getNetworkBrokerId () [virtual]

6.432.2.6 virtual const Pointer<BrokerId>& activemq::commands::NetworkBridgeFilter::getNetworkBrokerId () const [virtual]

6.432.2.7 virtual int activemq::commands::NetworkBridgeFilter::getNetworkTTL () const [virtual]

6.432.2.8 virtual void activemq::commands::NetworkBridgeFilter::setNetworkBrokerId (const Pointer< BrokerId > & *networkBrokerId*) [virtual]

6.432.2.9 virtual void activemq::commands::NetworkBridgeFilter::setNetworkTTL (int *networkTTL*) [virtual]

6.432.2.10 virtual std::string activemq::commands::NetworkBridgeFilter::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.432.3 Field Documentation

6.432.3.1 const unsigned char activemq::commands::NetworkBridgeFilter::ID_NETWORKBRIDGEFILTER = 91 [static]

6.432.3.2 Pointer<BrokerId> activemq::commands::NetworkBridgeFilter::networkBrokerId [protected]

6.432.3.3 int activemq::commands::NetworkBridgeFilter::networkTTL [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**NetworkBridgeFilter.h**

6.433 activemq::wireformat::openwire::marshal::generated::NetworkBrid Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **NetworkBridgeFilterMarshaller** (p. 2237).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/NetworkBridgeFilterMarshaller.`
diagram for activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller:

Public Member Functions

- **NetworkBridgeFilterMarshaller** ()
- virtual ~**NetworkBridgeFilterMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.433.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **NetworkBridgeFilterMarshaller** (p. 2237).
NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.433.2 Constructor & Destructor Documentation

6.433.2.1 activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller::Net
() [inline]

6.433.2.2 virtual activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller::~Ne
() [inline, virtual]

6.433.3 Member Function Documentation

6.433.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller::create
() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.433.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller::getDa
() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.433.3.3 virtual void activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller::looseM
(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.433.3.4 virtual void activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller::looseU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.433.3.5 virtual int activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.433.3.6 virtual void activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller::tightM (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.433.3.7 virtual void activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller::tightU (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**NetworkBridgeFilterMarshaller.h**

6.434 decaf::net::NoRouteToHostException Class Reference

`#include <src/main/decaf/net/NoRouteToHostException.h>`Inheritance diagram for decaf::net::NoRouteToHostException:

Public Member Functions

- **NoRouteToHostException** ()

  Default Constructor.

- **NoRouteToHostException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **NoRouteToHostException** (const **NoRouteToHostException** &ex)

  Copy Constructor.

- **NoRouteToHostException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **NoRouteToHostException** (const std::exception *cause)

  Constructor.

- **NoRouteToHostException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **NoRouteToHostException** * **clone** () const

  Clones this exception.

- virtual ~**NoRouteToHostException** () throw ()

6.434.1 Constructor & Destructor Documentation

6.434.1.1 decaf::net::NoRouteToHostException::NoRouteToHostException ()

Default Constructor.

6.434.1.2 decaf::net::NoRouteToHostException::NoRouteToHostException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.434.1.3 decaf::net::NoRouteToHostException::NoRouteToHostException (const NoRouteToHostException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.434.1.4 decaf::net::NoRouteToHostException::NoRouteToHostException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.434.1.5 decaf::net::NoRouteToHostException::NoRouteToHostException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.434.1.6 decaf::net::NoRouteToHostException::NoRouteToHostException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.434.1.7 virtual decaf::net::NoRouteToHostException::~NoRouteToHostException () throw () [virtual]

6.434.2 Member Function Documentation

6.434.2.1 virtual NoRouteToHostException* decaf::net::NoRouteToHostException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::net::SocketException** (p. 2773).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**NoRouteToHostException.h**

6.435 decaf::security::NoSuchAlgorithmException Class Reference

`#include <src/main/decaf/security/NoSuchAlgorithmException.h>`Inheritance diagram for decaf::security::NoSuchAlgorithmException:

Public Member Functions

- **NoSuchAlgorithmException** ()
  Default Constructor.
- **NoSuchAlgorithmException** (const Exception &ex)
  Conversion Constructor from some other Exception.
- **NoSuchAlgorithmException** (const **NoSuchAlgorithmException** &ex)
  Copy Constructor.
- **NoSuchAlgorithmException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **NoSuchAlgorithmException** (const std::exception *cause)
  Constructor.
- **NoSuchAlgorithmException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **NoSuchAlgorithmException** * **clone** () const
  Clones this exception.
- virtual ~**NoSuchAlgorithmException** () throw ()

6.435.1 Constructor & Destructor Documentation

6.435.1.1 decaf::security::NoSuchAlgorithmException::NoSuchAlgorithmException ()

Default Constructor.

6.435.1.2 decaf::security::NoSuchAlgorithmException::NoSuchAlgorithmException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.435.1.3 decaf::security::NoSuchAlgorithmException::NoSuchAlgorithmException (const NoSuchAlgorithmException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.435.1.4 decaf::security::NoSuchAlgorithmException::NoSuchAlgorithmException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.435.1.5 decaf::security::NoSuchAlgorithmException::NoSuchAlgorithmException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.435.1.6 decaf::security::NoSuchAlgorithmException::NoSuchAlgorithmException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.435.1.7 virtual decaf::security::NoSuchAlgorithmException::~NoSuchAlgorithmException () throw () [virtual]

6.435.2 Member Function Documentation

6.435.2.1 virtual NoSuchAlgorithmException* decaf::security::NoSuchAlgorithmException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::GeneralSecurityException** (p. 1572).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**NoSuchAlgorithmException.h**

6.436 decaf::util::NoSuchElementException Class Reference

`#include <src/main/decaf/util/NoSuchElementException.h>`Inheritance diagram for decaf::util::NoSuchElementException:

Public Member Functions

- **NoSuchElementException** ()

  Default Constructor.

- **NoSuchElementException** (const **decaf::lang::exceptions::RuntimeException** &ex)

  Conversion Constructor from some other Exception.

- **NoSuchElementException** (const **NoSuchElementException** &ex)

  Copy Constructor.

- **NoSuchElementException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **NoSuchElementException** (const std::exception *cause)

  Constructor.

- **NoSuchElementException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occured.

- virtual **NoSuchElementException** * **clone** () const

  Clones this exception.

- virtual ~**NoSuchElementException** () throw ()

6.436.1 Constructor & Destructor Documentation

6.436.1.1 decaf::util::NoSuchElementException::NoSuchElementException ()

Default Constructor.

6.436.1.2 decaf::util::NoSuchElementException::NoSuchElementException (const decaf::lang::exceptions::RuntimeException & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex The Exception whose data is to be copied into this one.

6.436.1.3 decaf::util::NoSuchElementException::NoSuchElementException (const NoSuchElementException & *ex*)

Copy Constructor.

Parameters:

ex The Exception whose data is to be copied into this one.

6.436.1.4 decaf::util::NoSuchElementException::NoSuchElementException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.436.1.5 decaf::util::NoSuchElementException::NoSuchElementException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.436.1.6 decaf::util::NoSuchElementException::NoSuchElementException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occured. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.436.1.7 virtual decaf::util::NoSuchElementException::~NoSuchElementException () throw () [virtual]

6.436.2 Member Function Documentation

6.436.2.1 virtual NoSuchElementException* decaf::util::NoSuchElementException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new Exception instance that is a copy of this one.

Reimplemented from **decaf::lang::exceptions::RuntimeException** (p. 2613).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**NoSuchElementException.h**

6.437 decaf::security::NoSuchProviderException Class Reference

`#include <src/main/decaf/security/NoSuchProviderException.h>`Inheritance diagram for decaf::security::NoSuchProviderException:

Public Member Functions

- **NoSuchProviderException** ()
  Default Constructor.
- **NoSuchProviderException** (const Exception &ex)
  Conversion Constructor from some other Exception.
- **NoSuchProviderException** (const **NoSuchProviderException** &ex)
  Copy Constructor.
- **NoSuchProviderException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **NoSuchProviderException** (const std::exception *cause)
  Constructor.
- **NoSuchProviderException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **NoSuchProviderException** * **clone** () const
  Clones this exception.
- virtual ~**NoSuchProviderException** () throw ()

6.437.1 Constructor & Destructor Documentation

6.437.1.1 decaf::security::NoSuchProviderException::NoSuchProviderException ()

Default Constructor.

6.437.1.2 decaf::security::NoSuchProviderException::NoSuchProviderException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.437.1.3 decaf::security::NoSuchProviderException::NoSuchProviderException (const NoSuchProviderException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.437.1.4 decaf::security::NoSuchProviderException::NoSuchProviderException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.437.1.5 decaf::security::NoSuchProviderException::NoSuchProviderException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.437.1.6 decaf::security::NoSuchProviderException::NoSuchProviderException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.437.1.7 virtual decaf::security::NoSuchProviderException::~NoSuchProviderException () throw () [virtual]

6.437.2 Member Function Documentation

6.437.2.1 virtual NoSuchProviderException* decaf::security::NoSuchProviderException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::GeneralSecurityException** (p. 1572).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**NoSuchProviderException.h**

6.438 decaf::lang::exceptions::NullPointerException Class Reference

`#include <src/main/decaf/lang/exceptions/NullPointerException.h>`Inheritance diagram for decaf::lang::exceptions::NullPointerException:

Public Member Functions

- **NullPointerException** ()

  Default Constructor.

- **NullPointerException** (const **Exception** &ex)

  *Conversion Constructor from some other **Exception** (p. 1445).*

- **NullPointerException** (const **NullPointerException** &ex)

  Copy Constructor.

- **NullPointerException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **NullPointerException** (const std::exception *cause)

  Constructor.

- **NullPointerException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occured.

- virtual **NullPointerException** * **clone** () const

  Clones this exception.

- virtual ~**NullPointerException** () throw ()

6.438.1 Constructor & Destructor Documentation

6.438.1.1 decaf::lang::exceptions::NullPointerException::NullPointerException ()

Default Constructor.

6.438.1.2 decaf::lang::exceptions::NullPointerException::NullPointerException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.438.1.3 decaf::lang::exceptions::NullPointerException::NullPointerException (const NullPointerException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.438.1.4 decaf::lang::exceptions::NullPointerException::NullPointerException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.438.1.5 decaf::lang::exceptions::NullPointerException::NullPointerException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.438.1.6 decaf::lang::exceptions::NullPointerException::NullPointerException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occured. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.438.1.7 virtual decaf::lang::exceptions::NullPointerException::~NullPointerException () throw () [virtual]

6.438.2 Member Function Documentation

6.438.2.1 virtual NullPointerException* decaf::lang::exceptions::NullPointerException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**NullPointerException.h**

6.439 decaf::lang::Number Class Reference

The abstract class **Number** (p. 2256) is the superclass of classes **Byte** (p. 760), **Double** (p. 1402), **Float** (p. 1518), **Integer** (p. 1725), **Long** (p. 1954), and **Short** (p. 2706).

`#include <src/main/decaf/lang/Number.h>`Inheritance diagram for decaf::lang::Number:

Public Member Functions

- virtual ~**Number** ()
- virtual unsigned char **byteValue** () const

  Answers the byte value which the receiver represents.

- virtual double **doubleValue** () const =0

  Answers the double value which the receiver represents.

- virtual float **floatValue** () const =0

  Answers the float value which the receiver represents.

- virtual int **intValue** () const =0

  Answers the int value which the receiver represents.

- virtual long long **longValue** () const =0

  Answers the long value which the receiver represents.

- virtual short **shortValue** () const

  Answers the short value which the receiver represents.

6.439.1 Detailed Description

The abstract class **Number** (p. 2256) is the superclass of classes **Byte** (p. 760), **Double** (p. 1402), **Float** (p. 1518), **Integer** (p. 1725), **Long** (p. 1954), and **Short** (p. 2706). Subclasses of **Number** (p. 2256) must provide methods to convert the represented numeric value to byte, double, float, int, long, and short.

Since:

1.0

6.439.2 Constructor & Destructor Documentation

6.439.2.1 virtual decaf::lang::Number::~Number () [inline, virtual]

6.439.3 Member Function Documentation

6.439.3.1 virtual unsigned char decaf::lang::Number::byteValue () const [inline, virtual]

Answers the byte value which the receiver represents.

Returns:

byte the value of the receiver.

Reimplemented in **decaf::lang::Byte** (p. 762), **decaf::lang::Character** (p. 910), **decaf::lang::Double** (p. 1404), **decaf::lang::Float** (p. 1520), **decaf::lang::Integer** (p. 1728), **decaf::lang::Long** (p. 1957), and **decaf::lang::Short** (p. 2708).

6.439.3.2 virtual double decaf::lang::Number::doubleValue () const [pure virtual]

Answers the double value which the receiver represents.

Returns:

double the value of the receiver.

Implemented in **decaf::lang::Byte** (p. 763), **decaf::lang::Character** (p. 911), **decaf::lang::Double** (p. 1406), **decaf::lang::Float** (p. 1521), **decaf::lang::Integer** (p. 1729), **decaf::lang::Long** (p. 1958), **decaf::lang::Short** (p. 2709), and **decaf::util::concurrent::atomic::AtomicInteger** (p. 609).

6.439.3.3 virtual float decaf::lang::Number::floatValue () const [pure virtual]

Answers the float value which the receiver represents.

Returns:

float the value of the receiver.

Implemented in **decaf::lang::Byte** (p. 764), **decaf::lang::Character** (p. 912), **decaf::lang::Double** (p. 1407), **decaf::lang::Float** (p. 1523), **decaf::lang::Integer** (p. 1730), **decaf::lang::Long** (p. 1959), **decaf::lang::Short** (p. 2709), and **decaf::util::concurrent::atomic::AtomicInteger** (p. 609).

6.439.3.4 virtual int decaf::lang::Number::intValue () const [pure virtual]

Answers the int value which the receiver represents.

Returns:

int the value of the receiver.

Implemented in **decaf::lang::Byte** (p. 764), **decaf::lang::Character** (p. 912), **decaf::lang::Double** (p. 1407), **decaf::lang::Float** (p. 1523), **decaf::lang::Integer** (p. 1730), **decaf::lang::Long** (p. 1959), **decaf::lang::Short** (p. 2710), and **decaf::util::concurrent::atomic::AtomicInteger** (p. 611).

6.439.3.5 virtual long long decaf::lang::Number::longValue () const [pure virtual]

Answers the long value which the receiver represents.

Returns:

long long the value of the receiver.

Implemented in **decaf::lang::Byte** (p. 764), **decaf::lang::Character** (p. 913), **decaf::lang::Double** (p. 1409), **decaf::lang::Float** (p. 1524), **decaf::lang::Integer** (p. 1731), **decaf::lang::Long** (p. 1960), **decaf::lang::Short** (p. 2710), and **decaf::util::concurrent::atomic::AtomicInteger** (p. 611).

6.439.3.6 virtual short decaf::lang::Number::shortValue () const [inline, virtual]

Answers the short value which the receiver represents.

Returns:

short the value of the receiver.

Reimplemented in **decaf::lang::Byte** (p. 766), **decaf::lang::Character** (p. 914), **decaf::lang::Double** (p. 1410), **decaf::lang::Float** (p. 1526), **decaf::lang::Integer** (p. 1735), **decaf::lang::Long** (p. 1964), and **decaf::lang::Short** (p. 2712).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Number.h**

6.440 decaf::lang::exceptions::NumberFormatException Class Reference

`#include <src/main/decaf/lang/exceptions/NumberFormatException.h>`Inheritance diagram for decaf::lang::exceptions::NumberFormatException:

Public Member Functions

- **NumberFormatException** ()
  Default Constructor.
- **NumberFormatException** (const **Exception** &ex)
  Conversion Constructor from some other ***Exception*** *(p. 1445).*
- **NumberFormatException** (const **NumberFormatException** &ex)
  Copy Constructor.
- **NumberFormatException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **NumberFormatException** (const std::exception *cause)
  Constructor.
- **NumberFormatException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occured.
- virtual **NumberFormatException** * **clone** () const
  Clones this exception.
- virtual ~**NumberFormatException** () throw ()

6.440.1 Constructor & Destructor Documentation

6.440.1.1 decaf::lang::exceptions::NumberFormatException::NumberFormatException ()

Default Constructor.

Referenced by clone().

6.440.1.2 decaf::lang::exceptions::NumberFormatException::NumberFormatException (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.440.1.3 decaf::lang::exceptions::NumberFormatException::NumberFormatException (const NumberFormatException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.440.1.4 decaf::lang::exceptions::NumberFormatException::NumberFormatException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.440.1.5 decaf::lang::exceptions::NumberFormatException::NumberFormatException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.440.1.6 decaf::lang::exceptions::NumberFormatException::NumberFormatException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occured. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.440.1.7 virtual decaf::lang::exceptions::NumberFormatException::~NumberFormatException () throw () [virtual]

6.440.2 Member Function Documentation

6.440.2.1 virtual NumberFormatException* decaf::lang::exceptions::NumberFormatException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

References NumberFormatException().

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**NumberFormatException.h**

6.441 cms::ObjectMessage Class Reference

Place holder for interaction with JMS systems that support Java, the C++ client is not responsible for deserializing the contained Object.

`#include <src/main/cms/ObjectMessage.h>`Inheritance diagram for cms::ObjectMessage:

Public Member Functions

- virtual ~**ObjectMessage** ()
- virtual void **setObjectBytes** (const std::vector< unsigned char > &bytes)=0

  Sets the payload bytes the represent the Object being transmitted.

- virtual std::vector< unsigned char > **getObjectBytes** () const =0

  Returns the byte array containing the serialized form of the transmitted Object.

6.441.1 Detailed Description

Place holder for interaction with JMS systems that support Java, the C++ client is not responsible for deserializing the contained Object. The Object can be accessed in its serialized form as a vector of bytes which allows for bridging of message systems.

serialized `ObjectMessage (p. 2262)`s.

Since:

1.0

6.441.2 Constructor & Destructor Documentation

6.441.2.1 virtual cms::ObjectMessage::~ObjectMessage () [virtual]

6.441.3 Member Function Documentation

6.441.3.1 virtual std::vector<unsigned char> cms::ObjectMessage::getObjectBytes () const [pure virtual]

Returns the byte array containing the serialized form of the transmitted Object.

Returns:

a byte vector containing the serialized Object.

Exceptions:

CMSException *(p. **973**)* - if the operation fails due to an internal error.

MessageNotReadableException *(p. **2175**)* - if the message is in write only mode.

Implemented in **activemq::commands::ActiveMQObjectMessage** (p. 381).

6.441.3.2 virtual void cms::ObjectMessage::setObjectBytes (const std::vector< unsigned char > & *bytes*) [pure virtual]

Sets the payload bytes the represent the Object being transmitted.

Parameters:

bytes The byte array that contains the serialized object.

Exceptions:

CMSException (p. ***973***) - if the operation fails due to an internal error.

MessageNotWriteableException (p. ***2177***) - if the **Message** (p. 2077) is in Read-only Mode.

Implemented in **activemq::commands::ActiveMQObjectMessage** (p. 381).

The documentation for this class was generated from the following file:

- src/main/cms/**ObjectMessage.h**

6.442 decaf::internal::net::ssl::openssl::OpenSSLContextSpi Class Reference

Provides an SSLContext that wraps the OpenSSL API.

`#include <src/main/decaf/internal/net/ssl/openssl/OpenSSLContextSpi.h>`Inheritance diagram for decaf::internal::net::ssl::openssl::OpenSSLContextSpi:

Public Member Functions

- **OpenSSLContextSpi** ()
- virtual ~**OpenSSLContextSpi** ()
- virtual void **providerInit** (**security::SecureRandom** *random)

  Perform the initialization of this Context.
  Parameters:

  random *Pointer to an instance of a secure random number generator.*
  Exceptions:

  NullPointerException *if the SecureRandom instance is NULL.*
  KeyManagementException *if an error occurs while initializing the context.*

- virtual **decaf::net::SocketFactory** * **providerGetSocketFactory** ()

  *Returns a **SocketFactory** (p. 2774) instance that can be used to create new **SSLSocket** (p. 2813) objects.*
  *The **SocketFactory** (p. 2774) is owned by the Service Provider and should not be destroyed by the caller.*
  Returns:

  SocketFactory *(p. 2774) instance that can be used to create new SSLSockets.*
  Exceptions:

  IllegalStateException *if the **SSLContextSpi** (p. 2798) object requires initialization but has not been initialized yet.*

- virtual **decaf::net::ServerSocketFactory** * **providerGetServerSocketFactory** ()

  *Returns a **ServerSocketFactory** (p. 2653) instance that can be used to create new **SSLServerSocket** (p. 2804) objects.*
  *The **ServerSocketFactory** (p. 2653) is owned by the Service Provider and should not be destroyed by the caller.*
  Returns:

  SocketFactory *(p. 2774) instance that can be used to create new SSLServerSockets.*
  Exceptions:

  IllegalStateException *if the **SSLContextSpi** (p. 2798) object requires initialization but has not been initialized yet.*

Friends

- class **OpenSSLSocket**
- class **OpenSSLSocketFactory**

6.442.1 Detailed Description

Provides an SSLContext that wraps the OpenSSL API.

Since:

1.0

6.442.2 Constructor & Destructor Documentation

6.442.2.1 decaf::internal::net::ssl::openssl::OpenSSLContextSpi::OpenSSLContextSpi ()

6.442.2.2 virtual decaf::internal::net::ssl::openssl::OpenSSLContextSpi::~OpenSSLContextSpi () [virtual]

6.442.3 Member Function Documentation

6.442.3.1 virtual decaf::net::ServerSocketFactory* decaf::internal::net::ssl::openssl::OpenSSLContextSpi::providerGetServerSocketFactory () [virtual]

Returns a **ServerSocketFactory** (p. 2653) instance that can be used to create new **SSLServerSocket** (p. 2804) objects.

The **ServerSocketFactory** (p. 2653) is owned by the Service Provider and should not be destroyed by the caller.

Returns:

SocketFactory (p. 2774) instance that can be used to create new SSLServerSockets.

Exceptions:

IllegalStateException if the **SSLContextSpi** (p. 2798) object requires initialization but has not been initialized yet.

Implements **decaf::net::ssl::SSLContextSpi** (p. 2799).

6.442.3.2 virtual decaf::net::SocketFactory* decaf::internal::net::ssl::openssl::OpenSSLContextSpi::providerGetSocketFactory () [virtual]

Returns a **SocketFactory** (p. 2774) instance that can be used to create new **SSLSocket** (p. 2813) objects.

The **SocketFactory** (p. 2774) is owned by the Service Provider and should not be destroyed by the caller.

Returns:

SocketFactory (p. 2774) instance that can be used to create new SSLSockets.

Exceptions:

IllegalStateException if the **SSLContextSpi** (p. 2798) object requires initialization but has not been initialized yet.

Implements **decaf::net::ssl::SSLContextSpi** (p. 2799).

6.442.3.3 virtual void decaf::internal::net::ssl::openssl::OpenSSLContextSpi::providerInit (security::SecureRandom * *random*) [virtual]

Perform the initialization of this Context.

Parameters:

random Pointer to an instance of a secure random number generator.

Exceptions:

NullPointerException if the SecureRandom instance is NULL.

KeyManagementException if an error occurs while initializing the context.

Implements **decaf::net::ssl::SSLContextSpi** (p. 2800).

6.442.4 Friends And Related Function Documentation

6.442.4.1 friend class OpenSSLSocket [friend]

6.442.4.2 friend class OpenSSLSocketFactory [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/openssl/**OpenSSLContextSpi.h**

6.443 decaf::internal::net::ssl::openssl::OpenSSLParameters Class Reference

Container class for parameters that are Common to OpenSSL socket classes.

`#include <src/main/decaf/internal/net/ssl/openssl/OpenSSLParameters.h>`

Public Member Functions

- virtual ~**OpenSSLParameters** ()
- bool **getNeedClientAuth** () const
- void **setNeedClientAuth** (bool value)
- bool **getWantClientAuth** () const
- void **setWantClientAuth** (bool value)
- bool **getUseClientMode** () const
- void **setUseClientMode** (bool value)
- std::vector< std::string > **getSupportedCipherSuites** () const
- std::vector< std::string > **getSupportedProtocols** () const
- std::vector< std::string > **getEnabledCipherSuites** () const
- void **setEnabledCipherSuites** (const std::vector< std::string > &suites)
- std::vector< std::string > **getEnabledProtocols** () const
- void **setEnabledProtocols** (const std::vector< std::string > &protocols)
- **OpenSSLParameters** * **clone** () const

  Creates a clone of this object such that all settings are transferred to a new instance of an SSL object whose parent is the same SSL_ CTX as this object's.

6.443.1 Detailed Description

Container class for parameters that are Common to OpenSSL socket classes.

Since:

1.0

6.443.2 Constructor & Destructor Documentation

6.443.2.1 virtual decaf::internal::net::ssl::openssl::OpenSSLParameters::~OpenSSLParameters () [virtual]

6.443.3 Member Function Documentation

6.443.3.1 OpenSSLParameters* decaf::internal::net::ssl::openssl::OpenSSLParameters::clone () const

Creates a clone of this object such that all settings are transferred to a new instance of an SSL object whose parent is the same SSL_ CTX as this object's.

6.443.3.2 std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLParameters::getEnabledCipherSuites () const

6.443.3.3 std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLParameters::getEnabledProtocols () const

6.443.3.4 bool decaf::internal::net::ssl::openssl::OpenSSLParameters::getNeedClientAuth () const [inline]

6.443.3.5 std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLParameters::getSupportedCipherSuites () const

6.443.3.6 std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLParameters::getSupportedProtocols () const

6.443.3.7 bool decaf::internal::net::ssl::openssl::OpenSSLParameters::getUseClientMode () const [inline]

6.443.3.8 bool decaf::internal::net::ssl::openssl::OpenSSLParameters::getWantClientAuth () const [inline]

6.443.3.9 void decaf::internal::net::ssl::openssl::OpenSSLParameters::setEnabledCipherSuites (const std::vector< std::string > & *suites*)

6.443.3.10 void decaf::internal::net::ssl::openssl::OpenSSLParameters::setEnabledProtocols (const std::vector< std::string > & *protocols*)

6.443.3.11 void decaf::internal::net::ssl::openssl::OpenSSLParameters::setNeedClientAuth (bool *value*) [inline]

6.443.3.12 void decaf::internal::net::ssl::openssl::OpenSSLParameters::setUseClientMode (bool *value*) [inline]

6.443.3.13 void decaf::internal::net::ssl::openssl::OpenSSLParameters::setWantClientAuth (bool *value*) [inline]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/openssl/**OpenSSLParameters.h**

6.444 decaf::internal::net::ssl::openssl::OpenSSLServerSocket Class Reference

SSLServerSocket based on OpenSSL library **code** (p. 999).

`#include <src/main/decaf/internal/net/ssl/openssl/OpenSSLServerSocket.h>`Inheritance diagram for decaf::internal::net::ssl::openssl::OpenSSLServerSocket:

Public Member Functions

- **OpenSSLServerSocket** (**OpenSSLParameters** *parameters)
- virtual ~**OpenSSLServerSocket** ()
- virtual std::vector< std::string > **getSupportedCipherSuites** () const

  *Gets a vector containing the names of all the cipher suites that are supported by this **SSLServerSocket** (p. 2804).*
  *Normally not all of these cipher suites will be enabled on the **Socket** (p. 2755).*

  Returns:

  a vector containing the names of all the supported cipher suites.

- virtual std::vector< std::string > **getSupportedProtocols** () const

  *Gets a vector containing the names of all the protocols that could be enabled for this **SSLServerSocket** (p. 2804) instance.*

  Returns:

  a vector containing the names of all the supported protocols.

- virtual std::vector< std::string > **getEnabledCipherSuites** () const

  *Returns a vector containing the names of all the currently enabled Cipher Suites for this **SSLServerSocket** (p. 2804).*

  Returns:

  vector of the names of all enabled Cipher Suites.

- virtual void **setEnabledCipherSuites** (const std::vector< std::string > &suites)

  *Sets the Cipher Suites that are to be enabled on the **SSLServerSocket** (p. 2804) connection. Each of the named Cipher Suites must appear in the list of supported cipher suites for this connection or an exception will be thrown.*

  Parameters:

  suites *An Vector of names for all the Cipher Suites that are to be enabled.*

  Exceptions:

  IllegalArgumentException *if the vector is empty or one of the names is invalid.*

- virtual std::vector< std::string > **getEnabledProtocols** () const

  *Returns a vector containing the names of all the currently enabled Protocols for this **SSLServerSocket** (p. 2804).*

  Returns:

  vector of the names of all enabled Protocols.

- virtual void **setEnabledProtocols** (const std::vector< std::string > &protocols)

  *Sets the Protocols that are to be enabled on the **SSLServerSocket** (p. 2804) connection.*
  Each of the named Protocols must appear in the list of supported protocols suites for this connection or an exception will be thrown.
  Parameters:

  ***protocols** An Vector of names for all the Protocols that are to be enabled.*
  Exceptions:

  ***IllegalArgumentException** if the vector is empty or one of the names is invalid.*

- virtual bool **getWantClientAuth** () const

  Returns:

  *true if the **Socket** (p. 2755) request client Authentication.*

- virtual void **setWantClientAuth** (bool value)

  *Sets whether or not this **Socket** (p. 2755) will request Client Authentication.*
  *If set to true the **Socket** (p. 2755) (when used in server mode) will request that the client authenticate itself, if the client doesn't send authentication the socket will still allow negotiation to continue.*
  Parameters:

  ***value** Whether the server socket should request client authentication.*

- virtual bool **getNeedClientAuth** () const

  Returns:

  *true if the **Socket** (p. 2755) requires client Authentication.*

- virtual void **setNeedClientAuth** (bool value)

  *Sets whether or not this **Socket** (p. 2755) will require Client Authentication.*
  *If set to true the **Socket** (p. 2755) (when used in server mode) will require that the client authenticate itself, if the client doesn't send authentication the socket will not allow negotiation to continue.*
  Parameters:

  ***value** Whether the server socket should require client authentication.*

- virtual **decaf::net::Socket** * **accept** ()

  *Listens for a connection request on the bound IPAddress and Port for this **ServerSocket** (p. 2644), the caller blocks until a connection is made.*
  *If the SO_TIMEOUT option is set this method could throw a **SocketTimeoutException** (p. 2792) if the operation times out.*
  Returns:

  *a new **Socket** (p. 2755) object pointer. Never returns NULL, the returned pointer is owned by the caller and must be explicitly freed by them.*
  Exceptions:

  ***IOException** if an I/O error occurs while binding the socket.*
  ***SocketException** (p. 2772) if an error occurs while blocking on the accept call.*
  ***SocketTimeoutException** (p. 2792) if the SO_TIMEOUT option was used and the accept timed out.*

6.444.1 Detailed Description

SSLServerSocket based on OpenSSL library **code** (p. 999).

Since:

1.0

6.444.2 Constructor & Destructor Documentation

6.444.2.1 decaf::internal::net::ssl::openssl::OpenSSLServerSocket::OpenSSLServerSocket (OpenSSLParameters * *parameters*)

6.444.2.2 virtual decaf::internal::net::ssl::openssl::OpenSSLServerSocket::~OpenSSLServerSocket () [virtual]

6.444.3 Member Function Documentation

6.444.3.1 virtual decaf::net::Socket* decaf::internal::net::ssl::openssl::OpenSSLServerSocket::accept () [virtual]

Listens for a connection request on the bound IPAddress and Port for this **ServerSocket** (p. 2644), the caller blocks until a connection is made.

If the SO_TIMEOUT option is set this method could throw a **SocketTimeoutException** (p. 2792) if the operation times out.

Returns:

a new **Socket** (p. 2755) object pointer. Never returns NULL, the returned pointer is owned by the caller and must be explicitly freed by them.

Exceptions:

IOException if an I/O error occurs while binding the socket.

SocketException *(p. 2772)* if an error occurs while blocking on the accept call.

SocketTimeoutException *(p. 2792)* if the SO_TIMEOUT option was used and the accept timed out.

Reimplemented from **decaf::net::ServerSocket** (p. 2647).

6.444.3.2 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLServerSocket::getEnabledCipherSuites () const [virtual]

Returns a vector containing the names of all the currently enabled Cipher Suites for this **SSLServerSocket** (p. 2804).

Returns:

vector of the names of all enabled Cipher Suites.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2806).

6.444.3.3 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLServerSocket::getEnabledProtocols () const [virtual]

Returns a vector containing the names of all the currently enabled Protocols for this **SSLServerSocket** (p. 2804).

Returns:

vector of the names of all enabled Protocols.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2807).

6.444.3.4 virtual bool decaf::internal::net::ssl::openssl::OpenSSLServerSocket::getNeedClientAuth () const [virtual]

Returns:

true if the **Socket** (p. 2755) requires client Authentication.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2807).

6.444.3.5 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLServerSocket::getSupportedCipherSuites () const [virtual]

Gets a vector containing the names of all the cipher suites that are supported by this **SSLServerSocket** (p. 2804).

Normally not all of these cipher suites will be enabled on the **Socket** (p. 2755).

Returns:

a vector containing the names of all the supported cipher suites.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2807).

6.444.3.6 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLServerSocket::getSupportedProtocols () const [virtual]

Gets a vector containing the names of all the protocols that could be enabled for this **SSLServerSocket** (p. 2804) instance.

Returns:

a vector containing the names of all the supported protocols.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2807).

6.444.3.7 virtual bool decaf::internal::net::ssl::openssl::OpenSSLServerSocket::getWantClientAuth () const [virtual]

Returns:

true if the **Socket** (p. 2755) request client Authentication.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2808).

6.444.3.8 virtual void decaf::internal::net::ssl::openssl::OpenSSLServerSocket::setEnabledCipherSuites (const std::vector< std::string > & *suites*) [virtual]

Sets the Cipher Suites that are to be enabled on the **SSLServerSocket** (p. 2804) connection.

Each of the named Cipher Suites must appear in the list of supported cipher suites for this connection or an exception will be thrown.

Parameters:

suites An Vector of names for all the Cipher Suites that are to be enabled.

Exceptions:

IllegalArgumentException if the vector is empty or one of the names is invalid.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2808).

6.444.3.9 virtual void decaf::internal::net::ssl::openssl::OpenSSLServerSocket::setEnabledProtocols (const std::vector< std::string > & *protocols*) [virtual]

Sets the Protocols that are to be enabled on the **SSLServerSocket** (p. 2804) connection.

Each of the named Protocols must appear in the list of supported protocols suites for this connection or an exception will be thrown.

Parameters:

protocols An Vector of names for all the Protocols that are to be enabled.

Exceptions:

IllegalArgumentException if the vector is empty or one of the names is invalid.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2808).

6.444.3.10 virtual void decaf::internal::net::ssl::openssl::OpenSSLServerSocket::setNeedClientAuth (bool *value*) [virtual]

Sets whether or not this **Socket** (p. 2755) will require Client Authentication.

If set to true the **Socket** (p. 2755) (when used in server mode) will require that the client authenticate itself, if the client doesn't send authentication the socket will not allow negotiation to continue.

Parameters:

value Whether the server socket should require client authentication.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2808).

6.444.3.11 virtual void decaf::internal::net::ssl::openssl::OpenSSLServerSocket::setWantClientAuth (bool *value*) [virtual]

Sets whether or not this **Socket** (p. 2755) will request Client Authentication.

If set to true the **Socket** (p. 2755) (when used in server mode) will request that the client authenticate itself, if the client doesn't send authentication the socket will still allow negotiation to continue.

Parameters:

value Whether the server socket should request client authentication.

Implements **decaf::net::ssl::SSLServerSocket** (p. 2809).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/openssl/**OpenSSLServerSocket.h**

6.445 decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory Class Reference

SSLServerSocketFactory that creates Server Sockets that use OpenSSL.

`#include <src/main/decaf/internal/net/ssl/openssl/OpenSSLServerSocketFactory.h>`Inheritance diagram for decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory:

Public Member Functions

- **OpenSSLServerSocketFactory** (**OpenSSLContextSpi** *parent)
- virtual ~**OpenSSLServerSocketFactory** ()
- virtual **decaf::net::ServerSocket** * **createServerSocket** ()

  *Create a new **ServerSocket** (p. 2644) that is unbound.*
  *The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.*

  Returns:

  *new **ServerSocket** (p. 2644) pointer that is owned by the caller.*

  Exceptions:

  ***IOException** if the **ServerSocket** (p. 2644) cannot be created for some reason.*

- virtual **decaf::net::ServerSocket** * **createServerSocket** (int port)

  *Create a new **ServerSocket** (p. 2644) that is bound to the given port.*
  *The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.*

  Parameters:

  ***port** The port to bind the **ServerSocket** (p. 2644) to.*

  Returns:

  *new **ServerSocket** (p. 2644) pointer that is owned by the caller.*

  Exceptions:

  ***IOException** if the **ServerSocket** (p. 2644) cannot be created for some reason.*

- virtual **decaf::net::ServerSocket** * **createServerSocket** (int port, int backlog)

  *Create a new **ServerSocket** (p. 2644) that is bound to the given port.*
  *The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will use the specified connection backlog setting.*

  Parameters:

  ***port** The port to bind the **ServerSocket** (p. 2644) to.*
  ***backlog** The number of pending connect request the **ServerSocket** (p. 2644) can queue.*

  Returns:

  *new **ServerSocket** (p. 2644) pointer that is owned by the caller.*

  Exceptions:

  ***IOException** if the **ServerSocket** (p. 2644) cannot be created for some reason.*

- virtual **decaf::net::ServerSocket** * **createServerSocket** (int port, int backlog, const **decaf::net::InetAddress** *address)

Create a new ***ServerSocket*** *(p. 2644) that is bound to the given port.*
The ***ServerSocket*** *(p. 2644) will have been configured with the defaults from the factory. The* ***ServerSocket*** *(p. 2644) will bind to the specified interface on the local host, and accept connections only on that interface. If the address parameter is NULL than the* ***ServerSocket*** *(p. 2644) will listen on all interfaces.*

Parameters:

port *The port to bind the* ***ServerSocket*** *(p. 2644) to.*
backlog *The number of pending connect request the* ***ServerSocket*** *(p. 2644) can queue.*
address *The address of the interface on the local machine to bind to.*

Returns:

new ***ServerSocket*** *(p. 2644) pointer that is owned by the caller.*

Exceptions:

IOException *if the* ***ServerSocket*** *(p. 2644) cannot be created for some reason.*

- virtual std::vector< std::string > **getDefaultCipherSuites** ()

Returns the list of cipher suites which are enabled by default.
Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

Returns:

an STL vector containing the list of cipher suites enabled by default.

See also:

getSupportedCipherSuites() *(p. 2811)*

- virtual std::vector< std::string > **getSupportedCipherSuites** ()

Returns the names of the cipher suites which could be enabled for use on an SSL connection. Normally, only a subset of these will actually be enabled by default, since this list may include cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

Returns:

an STL vector containing the list of supported cipher suites.

See also:

getDefaultCipherSuites() *(p. 2811)*

6.445.1 Detailed Description

SSLServerSocketFactory that creates Server Sockets that use OpenSSL.

Since:

1.0

6.445.2 Constructor & Destructor Documentation

6.445.2.1 decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory::OpenSSLServerSocketFact (OpenSSLContextSpi * *parent*)

6.445.2.2 virtual decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory::~OpenSSLServerSocketFac () [virtual]

6.445.3 Member Function Documentation

6.445.3.1 virtual decaf::net::ServerSocket* decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory::createServerSocket (int *port*, int *backlog*, const decaf::net::InetAddress * *address*) [virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will bind to the specified interface on the local host, and accept connections only on that interface. If the address parameter is NULL than the **ServerSocket** (p. 2644) will listen on all interfaces.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The number of pending connect request the **ServerSocket** (p. 2644) can queue.

address The address of the interface on the local machine to bind to.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implements **decaf::net::ServerSocketFactory** (p. 2654).

6.445.3.2 virtual decaf::net::ServerSocket* decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory::createServerSocket (int *port*, int *backlog*) [virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will use the specified connection backlog setting.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The number of pending connect request the **ServerSocket** (p. 2644) can queue.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implements **decaf::net::ServerSocketFactory** (p. 2654).

6.445.3.3 virtual decaf::net::ServerSocket* decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory::createServerSocket (int *port*) [virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implements **decaf::net::ServerSocketFactory** (p. 2655).

6.445.3.4 virtual decaf::net::ServerSocket* decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory::createServerSocket () [virtual]

Create a new **ServerSocket** (p. 2644) that is unbound.

The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Reimplemented from **decaf::net::ServerSocketFactory** (p. 2655).

6.445.3.5 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory::getDefaultCipherSuites () [virtual]

Returns the list of cipher suites which are enabled by default.

Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

Returns:

an STL vector containing the list of cipher suites enabled by default.

See also:

getSupportedCipherSuites() (p. 2811)

Implements **decaf::net::ssl::SSLServerSocketFactory** (p. 2811).

6.445.3.6 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory::getSupportedCipherSuites () [virtual]

Returns the names of the cipher suites which could be enabled for use on an SSL connection.

Normally, only a subset of these will actually be enabled by default, since this list may include cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

Returns:

an STL vector containing the list of supported cipher suites.

See also:

getDefaultCipherSuites() (p. 2811)

Implements **decaf::net::ssl::SSLServerSocketFactory** (p. 2811).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/openssl/**OpenSSLServerSocketFactory.h**

6.446 decaf::internal::net::ssl::openssl::OpenSSLSocket Class Reference

Wraps a a Normal Socket object and extends or overrides functions in that class to make use of the OpenSSL Socket API.

`#include <src/main/decaf/internal/net/ssl/openssl/OpenSSLSocket.h>`Inheritance diagram for decaf::internal::net::ssl::openssl::OpenSSLSocket:

Public Member Functions

- **OpenSSLSocket** (**OpenSSLParameters** *parameters)
- **OpenSSLSocket** (**OpenSSLParameters** *parameters, const **decaf::net::InetAddress** *address, int port)
- **OpenSSLSocket** (**OpenSSLParameters** *parameters, const **decaf::net::InetAddress** *address, int port, const **decaf::net::InetAddress** *localAddress, int localPort)
- **OpenSSLSocket** (**OpenSSLParameters** *parameters, const std::string &host, int port)
- **OpenSSLSocket** (**OpenSSLParameters** *parameters, const std::string &host, int port, const **decaf::net::InetAddress** *localAddress, int localPort)
- virtual ~**OpenSSLSocket** ()
- virtual void **connect** (const std::string &host, int port, int timeout)

  Connects to the specified destination, with a specified timeout value.
  *If a connection to the remote host is not established within the specified timeout interval than an **SocketTimeoutException** (p. 2792) is thrown. A timeout value of zero is treated as an inifinite timeout.*

  Parameters:

  host *The host name or IP address of the remote host to connect to.*
  port *The port on the remote host to connect to.*
  timeout *The number of Milliseconds to wait before treating the connection as failed.*

  Exceptions:

  IOException *Thrown if a failure occurred in the connect.*
  SocketTimeoutException *(p. 2792) if the timeout for connection is exceeded.*
  IllegalArguementException *if the timeout value is negative or the endpoint is invalid.*

- virtual void **close** ()

  *Closes the **Socket** (p. 2755).*
  *Once closed a **Socket** (p. 2755) cannot be connected or otherwise operated upon, a new **Socket** (p. 2755) instance must be created.*

  Exceptions:

  IOException *if an I/O error occurs while closing the **Socket** (p. 2755).*

- virtual **decaf::io::InputStream** * **getInputStream** ()

  Gets the InputStream for this socket if its connected.
  *The pointer returned is the property of the associated **Socket** (p. 2755) and should not be deleted by the caller.*
  When the returned InputStream is performing a blocking operation and the underlying connection is closed or otherwise broker the read calls will normally throw an exception to indicate the failure.
  *Closing the InputStream will also close the underlying **Socket** (p. 2755).*

  Returns:

  The InputStream for this socket.

Exceptions:

IOException *if an error occurs during creation of the InputStream, also if the* ***Socket*** *(p. 2755) is not connected or the input has been shutdown previously.*

- virtual **decaf::io::OutputStream** * **getOutputStream** ()

  Gets the OutputStream for this socket if it is connected.
  The pointer returned is the property of the ***Socket*** *(p. 2755) instance and should not be deleted by the caller.*
  Closing the returned ***Socket*** *(p. 2755) will also close the underlying* ***Socket*** *(p. 2755).*
  Returns:

  the OutputStream for this socket.
  Exceptions:

  IOException *if an error occurs during the creation of this OutputStream, or if the* ***Socket*** *(p. 2755) is closed or the output has been shutdown previously.*

- virtual void **shutdownInput** ()

  Shuts down the InputStream for this socket essentially marking it as EOF.
  The stream returns EOF for any calls to read after this method has been called.
  Exceptions:

  IOException *if an I/O error occurs while performing this operation.*

- virtual void **shutdownOutput** ()

  Shuts down the OutputStream for this socket, any data already written to the socket will be sent, any further calls to OuputStream::write will throw an IOException.
  Exceptions:

  IOException *if an I/O error occurs while performing this operation.*

- virtual void **setOOBInline** (bool value)

  Sets the value of the OOBINLINE for this socket, by default this option is disabled.
  If enabled the urgent data is read inline on the Socket's InputStream, no notification is give.
  Returns:

  true if OOBINLINE is enabled, false otherwise.
  Exceptions:

  SocketException *(p. 2772) if an error is encountered while performing this operation.*

- virtual void **sendUrgentData** (int data)

  Sends on byte of urgent data to the ***Socket*** *(p. 2755).*
  Parameters:

  data *The value to write as urgent data, only the lower eight bits are sent.*
  Exceptions:

  IOException *if an I/O error occurs while performing this operation.*

- virtual std::vector< std::string > **getSupportedCipherSuites** () const

  Gets a vector containing the names of all the cipher suites that are supported by this ***SSLSocket*** *(p. 2813).*
  Normally not all of these cipher suites will be enabled on the ***Socket*** *(p. 2755).*
  Returns:

  a vector containing the names of all the supported cipher suites.

- virtual std::vector< std::string > **getSupportedProtocols** () const

  *Gets a vector containing the names of all the protocols that could be enabled for this **SSLSocket** (p. 2813) instance.*

  Returns:

  a vector containing the names of all the supported protocols.

- virtual std::vector< std::string > **getEnabledCipherSuites** () const

  *Returns a vector containing the names of all the currently enabled Cipher Suites for this SSL **Socket** (p. 2755).*

  Returns:

  vector of the names of all enabled Cipher Suites.

- virtual void **setEnabledCipherSuites** (const std::vector< std::string > &suites)

  *Sets the Cipher Suites that are to be enabled on the SSL **Socket** (p. 2755) connection.*
  Each of the named Cipher Suites must appear in the list of supported cipher suites for this connection or an exception will be thrown.

  Parameters:

  ***suites** An Vector of names for all the Cipher Suites that are to be enabled.*

  Exceptions:

  ***IllegalArgumentException** if the vector is empty or one of the names is invalid.*

- virtual std::vector< std::string > **getEnabledProtocols** () const

  *Returns a vector containing the names of all the currently enabled Protocols for this SSL **Socket** (p. 2755).*

  Returns:

  vector of the names of all enabled Protocols.

- virtual void **setEnabledProtocols** (const std::vector< std::string > &protocols)

  *Sets the Protocols that are to be enabled on the SSL **Socket** (p. 2755) connection.*
  Each of the named Protocols must appear in the list of supported protocols suites for this connection or an exception will be thrown.

  Parameters:

  ***protocols** An Vector of names for all the Protocols that are to be enabled.*

  Exceptions:

  ***IllegalArgumentException** if the vector is empty or one of the names is invalid.*

- virtual void **startHandshake** ()

  Initiates a handshake for this SSL Connection, this can be necessary for several reasons such as using new encryption keys, or starting a new session.
  When called for the first time after the socket connects this method blocks until the handshake is completed. The provider is not require to support multiple handshakes and can throw an IOException to indicate an error.

  Exceptions:

  ***IOException** if an I/O error occurs while performing the Handshake*

- virtual void **setUseClientMode** (bool value)

Determines the mode that the socket uses when a handshake is initiated, client or server.
This method must be called prior to any handshake attempts on this ***Socket*** *(p. 2755), once a handshake has be initiated this socket remains the the set mode; client or server, for the life of this object.*

Parameters:

value *The mode setting, true for client or false for server.*

Exceptions:

IllegalArguementException *if the handshake process has begun and mode is lcoked.*

- virtual bool **getUseClientMode** () const

  Gets whether this ***Socket*** *(p. 2755) is in Client or Server mode, true indicates that the mode is set to Client.*

  Returns:

  true if the ***Socket*** *(p. 2755) is in Client mode, false otherwise.*

- virtual void **setNeedClientAuth** (bool value)

  Sets the ***Socket*** *(p. 2755) to require that a client authenticate itself by sending a valid Certificate that is trusted by this Server mode socket.*
  This option only applies to sockets in the Server mode.
  If the option is enabled an the client does not provide a certificate then the handshake is considered failed and the connection is refused. Calling this method resets any previous value for this option as well as clears any value set in the setWantClientAuth method.

  Parameters:

  value *The value indicating if a client is required to authenticate itself or not.*

- virtual bool **getNeedClientAuth** () const

  Returns if this socket is configured to require client authentication, true means that is has and that clients that failed to authenticate will be rejected.
  This option is only useful when the socket is operating in server mode.

  Returns:

  true if client authentication is required.

- virtual void **setWantClientAuth** (bool value)

  Sets the ***Socket*** *(p. 2755) to request that a client authenticate itself by sending a valid Certificate that is trusted by this Server mode socket.*
  This option only applies to sockets in the Server mode.
  If the option is enabled an the client does not provide a certificate then the handshake is considered to have succeeded, if it does send a certificate and that certificate is invalid the the handshake will fail. Calling this method resets any previous value for this option as well as clears any value set in the setNeedClientAuth method.

  Parameters:

  value *The value indicating if a client is requested to authenticate itself or not.*

- virtual bool **getWantClientAuth** () const

  Returns if this socket is configured to request client authentication, true means that is has and that clients that failed to authenticate will be rejected but that cleints that do not send a certificate are not considered to have failed authentication.
  This option is only useful when the socket is operating in server mode.

  Returns:

  true if client authentication is required.

- int **read** (unsigned char *buffer, int size, int offset, int length)
  Reads the requested data from the Socket and write it into the passed in buffer.
- void **write** (const unsigned char *buffer, int size, int offset, int length)
  Writes the specified data in the passed in buffer to the Socket.
- int **available** ()
  Gets the number of bytes in the Socket buffer that can be read without blocking.

6.446.1 Detailed Description

Wraps a a Normal Socket object and extends or overrides functions in that class to make use of the OpenSSL Socket API.

Since:

1.0

6.446.2 Constructor & Destructor Documentation

6.446.2.1 decaf::internal::net::ssl::openssl::OpenSSLSocket::OpenSSLSocket (OpenSSLParameters * *parameters*)

6.446.2.2 decaf::internal::net::ssl::openssl::OpenSSLSocket::OpenSSLSocket (OpenSSLParameters * *parameters*, const decaf::net::InetAddress * *address*, int *port*)

6.446.2.3 decaf::internal::net::ssl::openssl::OpenSSLSocket::OpenSSLSocket (OpenSSLParameters * *parameters*, const decaf::net::InetAddress * *address*, int *port*, const decaf::net::InetAddress * *localAddress*, int *localPort*)

6.446.2.4 decaf::internal::net::ssl::openssl::OpenSSLSocket::OpenSSLSocket (OpenSSLParameters * *parameters*, const std::string & *host*, int *port*)

6.446.2.5 decaf::internal::net::ssl::openssl::OpenSSLSocket::OpenSSLSocket (OpenSSLParameters * *parameters*, const std::string & *host*, int *port*, const decaf::net::InetAddress * *localAddress*, int *localPort*)

6.446.2.6 virtual decaf::internal::net::ssl::openssl::OpenSSLSocket::~OpenSSLSocket () [virtual]

6.446.3 Member Function Documentation

6.446.3.1 int decaf::internal::net::ssl::openssl::OpenSSLSocket::available ()

Gets the number of bytes in the Socket buffer that can be read without blocking.

Returns:

the number of bytes that can be read from the Socket without blocking.

Exceptions:

IOException if an I/O error occurs while performing this operation.

6.446.3.2 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::close () [virtual]

Closes the **Socket** (p. 2755).

Once closed a **Socket** (p. 2755) cannot be connected or otherwise operated upon, a new **Socket** (p. 2755) instance must be created.

Exceptions:

IOException if an I/O error occurs while closing the **Socket** (p. 2755).

Reimplemented from **decaf::net::Socket** (p. 2760).

6.446.3.3 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::connect (const std::string & *host*, int *port*, int *timeout*) [virtual]

Connects to the specified destination, with a specified timeout value.

If a connection to the remote host is not established within the specified timeout interval than an **SocketTimeoutException** (p. 2792) is thrown. A timeout value of zero is treated as an inifinite timeout.

Parameters:

host The host name or IP address of the remote host to connect to.

port The port on the remote host to connect to.

timeout The number of Milliseconds to wait before treating the connection as failed.

Exceptions:

IOException Thrown if a failure occurred in the connect.

SocketTimeoutException *(p. 2792)* if the timeout for connection is exceeded.

IllegalArguementException if the timeout value is negative or the endpoint is invalid.

Reimplemented from **decaf::net::Socket** (p. 2761).

6.446.3.4 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLSocket::getEnabledCipherSuites () const [virtual]

Returns a vector containing the names of all the currently enabled Cipher Suites for this SSL **Socket** (p. 2755).

Returns:

vector of the names of all enabled Cipher Suites.

Implements **decaf::net::ssl::SSLSocket** (p. 2816).

6.446.3.5 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLSocket::getEnabledProtocols () const [virtual]

Returns a vector containing the names of all the currently enabled Protocols for this SSL **Socket** (p. 2755).

Returns:

vector of the names of all enabled Protocols.

Implements **decaf::net::ssl::SSLSocket** (p. 2816).

6.446.3.6 virtual decaf::io::InputStream* decaf::internal::net::ssl::openssl::OpenSSLSocket::getInputStream () [virtual]

Gets the InputStream for this socket if its connected.

The pointer returned is the property of the associated **Socket** (p. 2755) and should not be deleted by the caller.

When the returned InputStream is performing a blocking operation and the underlying connection is closed or otherwise broker the read calls will normally throw an exception to indicate the failure.

Closing the InputStream will also close the underlying **Socket** (p. 2755).

Returns:

The InputStream for this socket.

Exceptions:

IOException if an error occurs during creation of the InputStream, also if the **Socket** (p. 2755) is not connected or the input has been shutdown previously.

Reimplemented from **decaf::net::Socket** (p. 2762).

6.446.3.7 virtual bool decaf::internal::net::ssl::openssl::OpenSSLSocket::getNeedClientAuth () const [virtual]

Returns if this socket is configured to require client authentication, true means that is has and that clients that failed to authenticate will be rejected.

This option is only useful when the socket is operating in server mode.

Returns:

true if client authentication is required.

Implements **decaf::net::ssl::SSLSocket** (p. 2817).

6.446.3.8 virtual decaf::io::OutputStream* decaf::internal::net::ssl::openssl::OpenSSLSocket::getOutputStream () [virtual]

Gets the OutputStream for this socket if it is connected.

The pointer returned is the property of the **Socket** (p. 2755) instance and should not be deleted by the caller.

Closing the returned **Socket** (p. 2755) will also close the underlying **Socket** (p. 2755).

Returns:

the OutputStream for this socket.

Exceptions:

IOException if an error occurs during the creation of this OutputStream, or if the **Socket** (p. 2755) is closed or the output has been shutdown previously.

Reimplemented from **decaf::net::Socket** (p. 2763).

6.446.3.9 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLSocket::getSupportedCipherSuites () const [virtual]

Gets a vector containing the names of all the cipher suites that are supported by this **SSLSocket** (p. 2813).

Normally not all of these cipher suites will be enabled on the **Socket** (p. 2755).

Returns:

a vector containing the names of all the supported cipher suites.

Implements **decaf::net::ssl::SSLSocket** (p. 2817).

6.446.3.10 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLSocket::getSupportedProtocols () const [virtual]

Gets a vector containing the names of all the protocols that could be enabled for this **SSLSocket** (p. 2813) instance.

Returns:

a vector containing the names of all the supported protocols.

Implements **decaf::net::ssl::SSLSocket** (p. 2817).

6.446.3.11 virtual bool decaf::internal::net::ssl::openssl::OpenSSLSocket::getUseClientMode () const [virtual]

Gets whether this **Socket** (p. 2755) is in Client or Server mode, true indicates that the mode is set to Client.

Returns:

true if the **Socket** (p. 2755) is in Client mode, false otherwise.

Implements **decaf::net::ssl::SSLSocket** (p. 2818).

6.446.3.12 virtual bool decaf::internal::net::ssl::openssl::OpenSSLSocket::getWantClientAuth () const [virtual]

Returns if this socket is configured to request client authentication, true means that is has and that clients that failed to authenticate will be rejected but that cleints that do not send a certificate are not considered to have failed authentication.

This option is only useful when the socket is operating in server mode.

Returns:

true if client authentication is required.

Implements **decaf::net::ssl::SSLSocket** (p. 2818).

6.446.3.13 int decaf::internal::net::ssl::openssl::OpenSSLSocket::read (unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Reads the requested data from the Socket and write it into the passed in buffer.

Parameters:

buffer The buffer to read into

size The size of the specified buffer

offset The offset into the buffer where reading should start filling.

length The number of bytes past offset to fill with data.

Returns:

the actual number of bytes read or -1 if at EOF.

Exceptions:

IOException if an I/O error occurs during the read.

NullPointerException if buffer is Null.

IndexOutOfBoundsException if offset + length is greater than buffer size.

6.446.3.14 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::sendUrgentData (int *data*) [virtual]

Sends on byte of urgent data to the **Socket** (p. 2755).

Parameters:

data The value to write as urgent data, only the lower eight bits are sent.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Reimplemented from **decaf::net::Socket** (p. 2766).

6.446.3.15 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::setEnabledCipherSuites (const std::vector< std::string > & *suites*) [virtual]

Sets the Cipher Suites that are to be enabled on the SSL **Socket** (p. 2755) connection.

Each of the named Cipher Suites must appear in the list of supported cipher suites for this connection or an exception will be thrown.

Parameters:

suites An Vector of names for all the Cipher Suites that are to be enabled.

Exceptions:

IllegalArgumentException if the vector is empty or one of the names is invalid.

Implements **decaf::net::ssl::SSLSocket** (p. 2818).

6.446.3.16 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::setEnabledProtocols (const std::vector< std::string > & *protocols*) [virtual]

Sets the Protocols that are to be enabled on the SSL **Socket** (p. 2755) connection.

Each of the named Protocols must appear in the list of supported protocols suites for this connection or an exception will be thrown.

Parameters:

protocols An Vector of names for all the Protocols that are to be enabled.

Exceptions:

IllegalArgumentException if the vector is empty or one of the names is invalid.

Implements **decaf::net::ssl::SSLSocket** (p. 2818).

6.446.3.17 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::setNeedClientAuth (bool *value*) [virtual]

Sets the **Socket** (p. 2755) to require that a client authenticate itself by sending a valid Certificate that is trusted by this Server mode socket.

This option only applies to sockets in the Server mode.

If the option is enabled an the client does not provide a certificate then the handshake is considered failed and the connection is refused. Calling this method resets any previous value for this option as well as clears any value set in the setWantClientAuth method.

Parameters:

value The value indicating if a client is required to authenticate itself or not.

Implements **decaf::net::ssl::SSLSocket** (p. 2819).

6.446.3.18 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::setOOBInline (bool *value*) [virtual]

Sets the value of the OOBINLINE for this socket, by default this option is disabled.

If enabled the urgent data is read inline on the Socket's InputStream, no notification is give.

Returns:

true if OOBINLINE is enabled, false otherwise.

Exceptions:

SocketException *(*p. *2772)* if an error is encountered while performing this operation.

Reimplemented from **decaf::net::Socket** (p. 2766).

6.446.3.19 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::setUseClientMode (bool *value*) [virtual]

Determines the mode that the socket uses when a handshake is initiated, client or server.

This method must be called prior to any handshake attempts on this **Socket** (p. 2755), once a handshake has be initiated this socket remains the the set mode; client or server, for the life of this object.

Parameters:

value The mode setting, true for client or false for server.

Exceptions:

IllegalArguementException if the handshake process has begun and mode is lcoked.

Implements **decaf::net::ssl::SSLSocket** (p. 2819).

6.446.3.20 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::setWantClientAuth (bool *value*) [virtual]

Sets the **Socket** (p. 2755) to request that a client authenticate itself by sending a valid Certificate that is trusted by this Server mode socket.

This option only applies to sockets in the Server mode.

If the option is enabled an the client does not provide a certificate then the handshake is considered to have succeeded, if it does send a certificate and that certificate is invalid the the handshake will fail. Calling this method resets any previous value for this option as well as clears any value set in the setNeedClientAuth method.

Parameters:

value The value indicating if a client is requested to authenticate itself or not.

Implements **decaf::net::ssl::SSLSocket** (p. 2820).

6.446.3.21 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::shutdownInput () [virtual]

Shuts down the InputStream for this socket essentially marking it as EOF.

The stream returns EOF for any calls to read after this method has been called.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Reimplemented from **decaf::net::Socket** (p. 2769).

6.446.3.22 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::shutdownOutput () [virtual]

Shuts down the OutputStream for this socket, any data already written to the socket will be sent, any further calls to OuputStream::write will throw an IOException.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Reimplemented from **decaf::net::Socket** (p. 2769).

6.446.3.23 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocket::startHandshake () [virtual]

Initiates a handshake for this SSL Connection, this can be necessary for several reasons such as using new encryption keys, or starting a new session.

When called for the first time after the socket connects this method blocks until the handshake is completed. The provider is not require to support multiple handshakes and can throw an IOException to indicate an error.

Exceptions:

IOException if an I/O error occurs while performing the Handshake

Implements **decaf::net::ssl::SSLSocket** (p. 2820).

6.446.3.24 void decaf::internal::net::ssl::openssl::OpenSSLSocket::write (const unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Writes the specified data in the passed in buffer to the Socket.

Parameters:

buffer The buffer to write to the socket.

size The size of the specified buffer.

offset The offset into the buffer where the data to write starts at.

length The number of bytes past offset to write.

Exceptions:

IOException if an I/O error occurs during the write.

NullPointerException if buffer is Null.

IndexOutOfBoundsException if offset + length is greater than buffer size.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/openssl/**OpenSSLSocket.h**

6.447 decaf::internal::net::ssl::openssl::OpenSSLSocketException Class Reference

Subclass of the standard SocketException that knows how to produce an error message from the OpenSSL error stack.

`#include <src/main/decaf/internal/net/ssl/openssl/OpenSSLSocketException.h>`Inheritance diagram for decaf::internal::net::ssl::openssl::OpenSSLSocketException:

Public Member Functions

- **OpenSSLSocketException** ()

  *Creates an new **OpenSSLSocketException** (p. 2293) with default values.*

- **OpenSSLSocketException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **OpenSSLSocketException** (const **OpenSSLSocketException** &ex)

  Copy Constructor.

- **OpenSSLSocketException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  *Create a new **OpenSSLSocketException** (p. 2293) and initializes the file name and line number where this message occurred.*

- **OpenSSLSocketException** (const std::exception *cause)

  *Creates a new **OpenSSLSocketException** (p. 2293) with the passed exception set as the cause of this exception.*

- **OpenSSLSocketException** (const char *file, const int lineNumber, const char *msg,...)

  *Create a new **OpenSSLSocketException** (p. 2293) and initializes the file name and line number where this message occurred.*

- **OpenSSLSocketException** (const char *file, const int lineNumber)

  *Create a new **OpenSSLSocketException** (p. 2293) and initializes the file name and line number where this message occurred.*

- virtual **OpenSSLSocketException** * **clone** () const

  Clones this exception.

- virtual ~**OpenSSLSocketException** () throw ()

Protected Member Functions

- std::string **getErrorString** () const

  Gets and formats an error message string from the OpenSSL error stack.

6.447.1 Detailed Description

Subclass of the standard SocketException that knows how to produce an error message from the OpenSSL error stack.

Since:

1.0

6.447.2 Constructor & Destructor Documentation

6.447.2.1 decaf::internal::net::ssl::openssl::OpenSSLSocketException::OpenSSLSocketException ()

Creates an new **OpenSSLSocketException** (p. 2293) with default values.

6.447.2.2 decaf::internal::net::ssl::openssl::OpenSSLSocketException::OpenSSLSocketException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An Exception object that should become this type of Exception.

6.447.2.3 decaf::internal::net::ssl::openssl::OpenSSLSocketException::OpenSSLSocketException (const OpenSSLSocketException & *ex*)

Copy Constructor.

Parameters:

ex The **OpenSSLSocketException** (p. 2293) whose values should be copied to this instance.

6.447.2.4 decaf::internal::net::ssl::openssl::OpenSSLSocketException::OpenSSLSocketException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Create a new **OpenSSLSocketException** (p. 2293) and initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown (can be null).

msg The error message to report.

... The list of primitives that are formatted into the message.

6.447.2.5 decaf::internal::net::ssl::openssl::OpenSSLSocketException::OpenSSLSocketException (const std::exception * *cause*)

Creates a new **OpenSSLSocketException** (p. 2293) with the passed exception set as the cause of this exception.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.447.2.6 decaf::internal::net::ssl::openssl::OpenSSLSocketException::OpenSSLSocketException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Create a new **OpenSSLSocketException** (p. 2293) and initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs.

lineNumber The line number where the exception occurred.

msg The error message to report.

... The list of primitives that are formatted into the message

6.447.2.7 decaf::internal::net::ssl::openssl::OpenSSLSocketException::OpenSSLSocketException (const char * *file*, const int *lineNumber*)

Create a new **OpenSSLSocketException** (p. 2293) and initializes the file name and line number where this message occurred. Sets the message to report by getting the complete set of error messages from the OpenSSL error stack and concatenating them into one string.

Parameters:

file The file name where exception occurs.

lineNumber The line number where the exception occurred.

6.447.2.8 virtual decaf::internal::net::ssl::openssl::OpenSSLSocketException::~OpenSSLSocketException () throw () [virtual]

6.447.3 Member Function Documentation

6.447.3.1 virtual OpenSSLSocketException* decaf::internal::net::ssl::openssl::OpenSSLSocketException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override this method.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::net::SocketException** (p. 2773).

6.447.3.2 std::string decaf::internal::net::ssl::openssl::OpenSSLSocketException::getErrorString () const [protected]

Gets and formats an error message string from the OpenSSL error stack.

Returns:

a string containing the complete OpenSSL error string.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/openssl/**OpenSSLSocketException.h**

6.448 decaf::internal::net::ssl::openssl::OpenSSLSocketFactory Class Reference

Client Socket Factory that creates SSL based client sockets using the OpenSSL library.

`#include <src/main/decaf/internal/net/ssl/openssl/OpenSSLSocketFactory.h>`Inheritance diagram for decaf::internal::net::ssl::openssl::OpenSSLSocketFactory:

Public Member Functions

- **OpenSSLSocketFactory** (**OpenSSLContextSpi** *parent)
- virtual ~**OpenSSLSocketFactory** ()
- virtual **decaf::net::Socket** * **createSocket** ()

  Creates an unconnected ***Socket*** *(p. 2755) object.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if the* ***Socket*** *(p. 2755) cannot be created.*

- virtual **decaf::net::Socket** * **createSocket** (const **decaf::net::InetAddress** *host, int port)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*

  Parameters:

  host *The host to connect the socket to.*
  port *The port on the remote host to connect to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

- virtual **decaf::net::Socket** * **createSocket** (const **decaf::net::InetAddress** *host, int port, const **decaf::net::InetAddress** *ifAddress, int localPort)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*
  The ***Socket*** *(p. 2755) will be bound to the specified local address and port.*

  Parameters:

  host *The host to connect the socket to.*
  port *The port on the remote host to connect to.*
  ifAddress *The address on the local machine to bind the* ***Socket*** *(p. 2755) to.*
  localPort *The local port to bind the* ***Socket*** *(p. 2755) to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

- virtual **decaf::net::Socket** * **createSocket** (const std::string &hostname, int port)

Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*

Parameters:

host *The host name or IP address to connect the socket to.*
port *The port on the remote host to connect to.*

Returns:

a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

Exceptions:

IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
UnknownHostException *(p. 3138) if the host name is not known.*

- virtual **decaf::net::Socket** * **createSocket** (const std::string &name, int port, const **decaf::net::InetAddress** *ifAddress, int localPort)

  Creates a new ***Socket*** *(p. 2755) object and connects it to the specified remote host and port using the configuration of this* ***SocketFactory*** *(p. 2774).*

  Parameters:

  host *The host name or IP address to connect the socket to.*
  port *The port on the remote host to connect to.*
  ifAddress *The address on the local machine to bind the* ***Socket*** *(p. 2755) to.*
  localPort *The local port to bind the* ***Socket*** *(p. 2755) to.*

  Returns:

  a new ***Socket*** *(p. 2755) object, caller must free this object when done.*

  Exceptions:

  IOException *if an I/O error occurs while creating the* ***Socket*** *(p. 2755) object.*
  UnknownHostException *(p. 3138) if the host name is not known.*

- virtual std::vector< std::string > **getDefaultCipherSuites** ()

  Returns the list of cipher suites which are enabled by default.
  Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

  Returns:

  an STL vector containing the list of cipher suites enabled by default.

  See also:

  getSupportedCipherSuites() *(p. 2823)*

- virtual std::vector< std::string > **getSupportedCipherSuites** ()

  Returns the names of the cipher suites which could be enabled for use on an SSL connection. Normally, only a subset of these will actually be enabled by default, since this list may include cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

  Returns:

  an STL vector containing the list of supported cipher suites.

  See also:

  getDefaultCipherSuites() *(p. 2823)*

- virtual **decaf::net::Socket** * **createSocket** (**decaf::net::Socket** *socket, std::string host, int port, bool autoClose)

  Returns a socket layered over an existing socket connected to the named host, at the given port. This constructor can be used when tunneling SSL through a proxy or when negotiating the use of SSL over an existing socket. The host and port refer to the logical peer destination. This socket is configured using the socket options established for this factory.

Parameters:

socket *The existing socket to layer over.*
host *The server host the original* ***Socket*** *(p. 2755) is connected to.*
port *The server port the original* ***Socket*** *(p. 2755) is connected to.*
autoClose *Should the layered over* ***Socket*** *(p. 2755) be closed when the topmost socket is closed.*

Returns:

a new ***Socket*** *(p. 2755) instance that wraps the given* ***Socket*** *(p. 2755).*

Exceptions:

IOException *if an I/O exception occurs while performing this operation.*
UnknownHostException *(p. 3138) if the host is unknown.*

6.448.1 Detailed Description

Client Socket Factory that creates SSL based client sockets using the OpenSSL library.

Since:

1.0

6.448.2 Constructor & Destructor Documentation

6.448.2.1 decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::OpenSSLSocketFactory (OpenSSLContextSpi * *parent*)

6.448.2.2 virtual decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::~OpenSSLSocketFactory () [virtual]

6.448.3 Member Function Documentation

6.448.3.1 virtual decaf::net::Socket* decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::createSocket (decaf::net::Socket * *socket*, std::string *host*, int *port*, bool *autoClose*) [virtual]

Returns a socket layered over an existing socket connected to the named host, at the given port.

This constructor can be used when tunneling SSL through a proxy or when negotiating the use of SSL over an existing socket. The host and port refer to the logical peer destination. This socket is configured using the socket options established for this factory.

Parameters:

socket The existing socket to layer over.

host The server host the original **Socket** (p. 2755) is connected to.

port The server port the original **Socket** (p. 2755) is connected to.

autoClose Should the layered over **Socket** (p. 2755) be closed when the topmost socket is closed.

Returns:

a new **Socket** (p. 2755) instance that wraps the given **Socket** (p. 2755).

Exceptions:

IOException if an I/O exception occurs while performing this operation.

UnknownHostException *(*p. *3138)* if the host is unknown.

Implements **decaf::net::ssl::SSLSocketFactory** (p. 2822).

6.448.3.2 virtual decaf::net::Socket* decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::createSocket (const std::string & *name*, int *port*, const decaf::net::InetAddress * *ifAddress*, int *localPort*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host name or IP address to connect the socket to.

port The port on the remote host to connect to.

ifAddress The address on the local machine to bind the **Socket** (p. 2755) to.

localPort The local port to bind the **Socket** (p. 2755) to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(*p. *3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2775).

6.448.3.3 virtual decaf::net::Socket* decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::createSocket (const std::string & *hostname*, int *port*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host name or IP address to connect the socket to.

port The port on the remote host to connect to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(*p. *3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2775).

6.448.3.4 virtual decaf::net::Socket* decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::createSocket (const decaf::net::InetAddress * *host*, int *port*, const decaf::net::InetAddress * *ifAddress*, int *localPort*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

The **Socket** (p. 2755) will be bound to the specified local address and port.

Parameters:

host The host to connect the socket to.

port The port on the remote host to connect to.

ifAddress The address on the local machine to bind the **Socket** (p. 2755) to.

localPort The local port to bind the **Socket** (p. 2755) to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2776).

6.448.3.5 virtual decaf::net::Socket* decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::createSocket (const decaf::net::InetAddress * *host*, int *port*) [virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host to connect the socket to.

port The port on the remote host to connect to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implements **decaf::net::SocketFactory** (p. 2776).

6.448.3.6 virtual decaf::net::Socket* decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::createSocket () [virtual]

Creates an unconnected **Socket** (p. 2755) object.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if the **Socket** (p. 2755) cannot be created.

Reimplemented from **decaf::net::SocketFactory** (p. 2777).

6.448.3.7 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::getDefaultCipherSuites () [virtual]

Returns the list of cipher suites which are enabled by default.

Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

Returns:

an STL vector containing the list of cipher suites enabled by default.

See also:

getSupportedCipherSuites() (p. 2823)

Implements **decaf::net::ssl::SSLSocketFactory** (p. 2823).

6.448.3.8 virtual std::vector<std::string> decaf::internal::net::ssl::openssl::OpenSSLSocketFactory::getSupportedCipherSuites () [virtual]

Returns the names of the cipher suites which could be enabled for use on an SSL connection.

Normally, only a subset of these will actually be enabled by default, since this list may include cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

Returns:

an STL vector containing the list of supported cipher suites.

See also:

getDefaultCipherSuites() (p. 2823)

Implements **decaf::net::ssl::SSLSocketFactory** (p. 2823).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/openssl/**OpenSSLSocketFactory.h**

6.449 decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream Class Reference

An output stream for reading data from an OpenSSL Socket instance.

`#include <src/main/decaf/internal/net/ssl/openssl/OpenSSLSocketInputStream.h>`Inheritance diagram for decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream:

Public Member Functions

- **OpenSSLSocketInputStream** (**OpenSSLSocket** *socket)
- virtual ~**OpenSSLSocketInputStream** ()
- virtual int **available** () const

  Indicates the number of bytes available.
  The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.
  The default implementation of this method returns zero.

  Returns:

  the number of bytes available on this input stream.

  Exceptions:

  IOException *(p. **1774**) if an I/O error occurs.*

- virtual void **close** ()

  Close - does nothing.

- virtual long long **skip** (long long num)

  Not supported.

Protected Member Functions

- virtual int **doReadByte** ()
- virtual int **doReadArrayBounded** (unsigned char *buffer, int size, int offset, int length)

6.449.1 Detailed Description

An output stream for reading data from an OpenSSL Socket instance.

Since:

1.0

6.449.2 Constructor & Destructor Documentation

6.449.2.1 decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream::OpenSSLSocketInputStream (OpenSSLSocket * *socket*)

6.449.2.2 virtual decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream::~OpenSSLSocketInputStream () [virtual]

6.449.3 Member Function Documentation

6.449.3.1 virtual int decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream::available () const [virtual]

Indicates the number of bytes available.

The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException *(*p. ***1774****)* if an I/O error occurs.

Reimplemented from **decaf::io::InputStream** (p. 1695).

6.449.3.2 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream::close () [virtual]

Close - does nothing. It is the responsibility of the owner of the socket object to close it.

Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.

The default implementation of this method does nothing.

Exceptions:

IOException *(*p. ***1774****)* if an I/O error occurs while closing the **InputStream** (p. 1694).

Reimplemented from **decaf::io::InputStream** (p. 1696).

6.449.3.3 virtual int decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::InputStream** (p. 1696).

6.449.3.4 virtual int decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream::doReadByte () [protected, virtual]

Implements **decaf::io::InputStream** (p. 1697).

6.449.3.5 virtual long long decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream::skip (long long *num*) [virtual]

Not supported. Skips over and discards n bytes of data from this input stream.

The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

Reimplemented from **decaf::io::InputStream** (p. 1700).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/openssl/**OpenSSLSocketInputStream.h**

6.450 decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream Class Reference

OutputStream implementation used to write data to an **OpenSSLSocket** (p. 2280) instance.

`#include <src/main/decaf/internal/net/ssl/openssl/OpenSSLSocketOutputStream.h>`Inheritance diagram for decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream:

Public Member Functions

- **OpenSSLSocketOutputStream** (**OpenSSLSocket** *socket)
- virtual ~**OpenSSLSocketOutputStream** ()
- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.
  The object is generally no longer usable after calling close.

  Exceptions:

  IOException *(p. **1774**) if an error occurs while closing.*

  The default implementation of this method does nothing.

Protected Member Functions

- virtual void **doWriteByte** (unsigned char c)
- virtual void **doWriteArrayBounded** (const unsigned char *buffer, int size, int offset, int length)

6.450.1 Detailed Description

OutputStream implementation used to write data to an **OpenSSLSocket** (p. 2280) instance.

Since:

1.0

6.450.2 Constructor & Destructor Documentation

6.450.2.1 decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream::OpenSSLSocketOutputStr (OpenSSLSocket * *socket*)

6.450.2.2 virtual decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream::~OpenSSLSocketOutputS () [virtual]

6.450.3 Member Function Documentation

6.450.3.1 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream::close () [virtual]

Closes this object and deallocates the appropriate resources.

The object is generally no longer usable after calling close.

Exceptions:

IOException *(*p. *1774**)* if an error occurs while closing.

The default implementation of this method does nothing. The default implementation of this method does nothing.

Reimplemented from **decaf::io::OutputStream** (p. 2334).

6.450.3.2 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::OutputStream** (p. 2335).

6.450.3.3 virtual void decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream::doWriteByte (unsigned char *c*) [protected, virtual]

Implements **decaf::io::OutputStream** (p. 2335).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/ssl/openssl/**OpenSSLSocketOutputStream.h**

6.451 activemq::wireformat::openwire::OpenWireFormat Class Reference

`#include <src/main/activemq/wireformat/openwire/OpenWireFormat.h>`Inheritance diagram for activemq::wireformat::openwire::OpenWireFormat:

Public Member Functions

- **OpenWireFormat** (const **decaf::util::Properties** &properties)

  *Constructs a new **OpenWireFormat** (p. 2309) object.*

- virtual ~**OpenWireFormat** ()
- virtual bool **hasNegotiator** () const

  *Returns true if this **WireFormat** (p. 3211) has a Negotiator that needs to wrap the Transport that uses it.*
  Returns:

  *true if the **WireFormat** (p. 3211) provides a Negotiator.*

- virtual **Pointer**< **transport::Transport** > **createNegotiator** (const **Pointer**< **transport::Transport** > transport)

  If the Transport Provides a Negotiator this method will create and return a new instance of the Negotiator.
  Parameters:

  ***transport** (p. 72) The Transport to Wrap the Negotiator around.*
  Returns:

  *new instance of a **WireFormatNegotiator** (p. 3231) as a **Pointer**<**Transport**> (p. 2355).*
  Exceptions:

  ***UnsupportedOperationException** if the **WireFormat** (p. 3211) doesn't have a Negotiator.*

- void **addMarshaller** (**marshal::DataStreamMarshaller** *marshaler)

  Allows an external source to add marshalers to this object for types that may be marshaled or unmarshaled.

- virtual void **marshal** (const **Pointer**< **commands::Command** > command, const **activemq::transport::Transport** *transport, **decaf::io::DataOutputStream** *out)

  Stream based marshaling of a Command, this method blocks until the entire Command has been written out to the output stream.
  Parameters:

  ***command** The Command to Marshal*
  ***transport** (p. 72) The Transport that called this method.*
  ***out** The output stream to write the command to.*
  Exceptions:

  ***IOException** if an I/O error occurs.*

- virtual **Pointer**< **commands::Command** > **unmarshal** (const **activemq::transport::Transport** *transport, **decaf::io::DataInputStream** *in)

Stream based unmarshaling, blocks on reads on the input stream until a complete command has been read and unmarshaled into the correct form.
Returns a Pointer to the newly unmarshaled Command.

Parameters:

transport *(p. 72) Pointer to the* ***transport*** *(p. 72) that is making this request.*
in *The input stream to read the command from.*

Returns:

the newly marshaled Command, caller owns the pointer

Exceptions:

IOException *if an I/O error occurs.*

- virtual int **tightMarshalNestedObject1** (**commands::DataStructure** *object, **utils::BooleanStream** *bs)

  Utility method for Tight Marshaling the given object to the boolean stream passed.

- void **tightMarshalNestedObject2** (**commands::DataStructure** *o, **decaf::io::DataOutputStream** *ds, **utils::BooleanStream** *bs)

  Utility method that will Tight ***marshal*** *(p. 83) some internally nested object that implements the DataStructure interface.*

- **commands::DataStructure** * **tightUnmarshalNestedObject** (**decaf::io::DataInputStream** *dis, **utils::BooleanStream** *bs)

  Utility method used to Unmarshal a Nested DataStructure type object from the given DataInputStream.

- **commands::DataStructure** * **looseUnmarshalNestedObject** (**decaf::io::DataInputStream** *dis)

  Utility method to unmarshal an DataStructure object from an DataInputStream using the Loose Unmarshaling format.

- void **looseMarshalNestedObject** (**commands::DataStructure** *o, **decaf::io::DataOutputStream** *dataOut)

  Utility method to loosely Marshal an object that is derived from the DataStrucutre interface.

- void **renegotiateWireFormat** (const **commands::WireFormatInfo** &info)

  Called to re-negotiate the settings for the WireFormatInfo, these determine how the client and broker communicate.

- void **setPreferedWireFormatInfo** (const **Pointer< commands::WireFormatInfo >** info)

  Configures this object using the provided WireformatInfo object.

- const **Pointer< commands::WireFormatInfo >** & **getPreferedWireFormatInfo** () const

  Gets the Preferred WireFormatInfo object that this class holds.

- bool **isStackTraceEnabled** () const

  Checks if the stackTraceEnabled flag is on.

- void **setStackTraceEnabled** (bool stackTraceEnabled)

  Sets if the stackTraceEnabled flag is on.

- bool **isTcpNoDelayEnabled** () const
  Checks if the tcpNoDelayEnabled flag is on.
- void **setTcpNoDelayEnabled** (bool tcpNoDelayEnabled)
  Sets if the tcpNoDelayEnabled flag is on.
- int **getVersion** () const
  Get the current Wireformat Version.
- void **setVersion** (int version)
  Set the current Wireformat Version.
- virtual bool **inReceive** () const
  Is there a Message being unmarshaled?
- bool **isCacheEnabled** () const
  Checks if the cacheEnabled flag is on.
- void **setCacheEnabled** (bool cacheEnabled)
  Sets if the cacheEnabled flag is on.
- int **getCacheSize** () const
  Returns the currently set Cache size.
- void **setCacheSize** (int value)
  Sets the current Cache size.
- bool **isTightEncodingEnabled** () const
  Checks if the tightEncodingEnabled flag is on.
- void **setTightEncodingEnabled** (bool tightEncodingEnabled)
  Sets if the tightEncodingEnabled flag is on.
- bool **isSizePrefixDisabled** () const
  Checks if the sizePrefixDisabled flag is on.
- void **setSizePrefixDisabled** (bool sizePrefixDisabled)
  Sets if the sizePrefixDisabled flag is on.
- long long **getMaxInactivityDuration** () const
  Gets the MaxInactivityDuration setting.
- void **setMaxInactivityDuration** (long long value)
  Sets the MaxInactivityDuration setting.
- long long **getMaxInactivityDurationInitialDelay** () const
  Gets the MaxInactivityDurationInitialDelay setting.
- void **setMaxInactivityDurationInitialDelay** (long long value)
  Sets the MaxInactivityDurationInitialDelay setting.

Protected Member Functions

- **commands::DataStructure** * **doUnmarshal** (**decaf::io::DataInputStream** *dis)

  Perform the actual unmarshal of data from the given DataInputStream return the unmarshalled DataStrucutre object once done, caller takes ownership of this object.

- void **destroyMarshalers** ()

  Cleans up all registered Marshallers and empties the dataMarshallers vector.

Static Protected Attributes

- static const unsigned char **NULL_TYPE**
- static const int **DEFAULT_VERSION**
- static const int **MAX_SUPPORTED_VERSION**

6.451.1 Constructor & Destructor Documentation

6.451.1.1 activemq::wireformat::openwire::OpenWireFormat::OpenWireFormat (const decaf::util::Properties & *properties*)

Constructs a new **OpenWireFormat** (p. 2309) object.

Parameters:

properties - can contain optional config params.

6.451.1.2 virtual activemq::wireformat::openwire::OpenWireFormat::~OpenWireFormat () [virtual]

6.451.2 Member Function Documentation

6.451.2.1 void activemq::wireformat::openwire::OpenWireFormat::addMarshaller (marshal::DataStreamMarshaller * *marshaler*)

Allows an external source to add marshalers to this object for types that may be marshaled or unmarshaled.

Parameters:

marshaler - the Marshaler to add to the collection.

6.451.2.2 virtual Pointer<transport::Transport> activemq::wireformat::openwire::OpenWireFormat::createNegotiator (const Pointer< transport::Transport > *transport*) [virtual]

If the Transport Provides a Negotiator this method will create and return a new instance of the Negotiator.

Parameters:

transport *(p. 72)* The Transport to Wrap the Negotiator around.

Returns:

new instance of a **WireFormatNegotiator** (p. 3231) as a **Pointer<Transport>** (p. 2355).

Exceptions:

UnsupportedOperationException if the **WireFormat** (p. 3211) doesn't have a Negotiator.

Implements **activemq::wireformat::WireFormat** (p. 3212).

6.451.2.3 void activemq::wireformat::openwire::OpenWireFormat::destroyMarshalers () [protected]

Cleans up all registered Marshallers and empties the dataMarshallers vector. This should be called before a reconfiguration of the version marshallers, or on destruction of this object

6.451.2.4 commands::DataStructure* activemq::wireformat::openwire::OpenWireFormat::doUnmarshal (decaf::io::DataInputStream * *dis*) [protected]

Perform the actual unmarshal of data from the given DataInputStream return the unmarshalled DataStrucutre object once done, caller takes ownership of this object. This method can return null if the type of the object to unmarshal is NULL, empty data.

Parameters:

dis The DataInputStream to read from.

Returns:

new DataStructure* that the caller owns.

Exceptions:

IOException if an error occurs during the unmarshal.

6.451.2.5 int activemq::wireformat::openwire::OpenWireFormat::getCacheSize () const [inline]

Returns the currently set Cache size.

Returns:

the current value of the broker's cache size.

6.451.2.6 long long activemq::wireformat::openwire::OpenWireFormat::getMaxInactivityDuration () const [inline]

Gets the MaxInactivityDuration setting.

Returns:

maximum inactivity duration value in milliseconds.

6.451.2.7 long long activemq::wireformat::openwire::OpenWireFormat::getMaxInactivityDurationInitialDelay () const [inline]

Gets the MaxInactivityDurationInitialDelay setting.

Returns:

maximum inactivity duration initial delay value in milliseconds.

6.451.2.8 const Pointer<commands::WireFormatInfo>& activemq::wireformat::openwire::OpenWireFormat::getPreferedWireFormatInfo () const [inline]

Gets the Preferred WireFormatInfo object that this class holds.

Returns:

pointer to a preferred WireFormatInfo object

6.451.2.9 int activemq::wireformat::openwire::OpenWireFormat::getVersion () const [inline, virtual]

Get the current Wireformat Version.

Returns:

int that identifies the version

Implements **activemq::wireformat::WireFormat** (p. 3212).

6.451.2.10 virtual bool activemq::wireformat::openwire::OpenWireFormat::hasNegotiator () const [inline, virtual]

Returns true if this **WireFormat** (p. 3211) has a Negotiator that needs to wrap the Transport that uses it.

Returns:

true if the **WireFormat** (p. 3211) provides a Negotiator.

Implements **activemq::wireformat::WireFormat** (p. 3212).

6.451.2.11 virtual bool activemq::wireformat::openwire::OpenWireFormat::inReceive () const [inline, virtual]

Is there a Message being unmarshaled?

Returns:

true while in the doUnmarshal method.

Implements **activemq::wireformat::WireFormat** (p. 3213).

6.451.2.12 bool activemq::wireformat::openwire::OpenWireFormat::isCacheEnabled () const [inline]

Checks if the cacheEnabled flag is on.

Returns:

true if the flag is on.

6.451.2.13 bool activemq::wireformat::openwire::OpenWireFormat::isSizePrefixDisabled () const [inline]

Checks if the sizePrefixDisabled flag is on.

Returns:

true if the flag is on.

6.451.2.14 bool activemq::wireformat::openwire::OpenWireFormat::isStackTraceEnabled () const [inline]

Checks if the stackTraceEnabled flag is on.

Returns:

true if the flag is on.

6.451.2.15 bool activemq::wireformat::openwire::OpenWireFormat::isTcpNoDelayEnabled () const [inline]

Checks if the tcpNoDelayEnabled flag is on.

Returns:

true if the flag is on.

6.451.2.16 bool activemq::wireformat::openwire::OpenWireFormat::isTightEncodingEnabled () const [inline]

Checks if the tightEncodingEnabled flag is on.

Returns:

true if the flag is on.

6.451.2.17 void activemq::wireformat::openwire::OpenWireFormat::looseMarshalNestedObject (commands::DataStructure * *o*, decaf::io::DataOutputStream * *dataOut*)

Utility method to loosely Marshal an object that is derived from the DataStrucutre interface. The marshaled data is written to the passed in DataOutputStream.

Parameters:

o - DataStructure derived Object to Marshal

dataOut - DataOutputStream to write the data to

Exceptions:

IOException if an error occurs.

6.451.2.18 commands::DataStructure* activemq::wireformat::openwire::OpenWireFormat::looseUnmarshalNestedObject (decaf::io::DataInputStream * *dis*)

Utility method to unmarshal an DataStructure object from an DataInputStream using the Loose Unmarshaling format. Will read the Data and construct a new DataStructure based Object, the pointer to the Object returned is now owned by the caller.

Parameters:

dis - the DataInputStream to read the data from

Returns:

a new DataStructure derived Object pointer

Exceptions:

IOException if an error occurs.

6.451.2.19 virtual void activemq::wireformat::openwire::OpenWireFormat::marshal (const Pointer< commands::Command > *command*, const activemq::transport::Transport * *transport*, decaf::io::DataOutputStream * *out*) [virtual]

Stream based marshaling of a Command, this method blocks until the entire Command has been written out to the output stream.

Parameters:

command The Command to Marshal

transport *(p. 72)* The Transport that called this method.

out The output stream to write the command to.

Exceptions:

IOException if an I/O error occurs.

Implements **activemq::wireformat::WireFormat** (p. 3213).

6.451.2.20 void activemq::wireformat::openwire::OpenWireFormat::renegotiateWireFormat (const commands::WireFormatInfo & *info*)

Called to re-negotiate the settings for the WireFormatInfo, these determine how the client and broker communicate.

Parameters:

info The new Wireformat Info settings.

Exceptions:

IllegalStateException is wire format can't be negotiated.

6.451.2.21 void activemq::wireformat::openwire::OpenWireFormat::setCacheEnabled (bool *cacheEnabled*) [inline]

Sets if the cacheEnabled flag is on.

Parameters:

cacheEnabled - true to turn flag is on

6.451.2.22 void activemq::wireformat::openwire::OpenWireFormat::setCacheSize (int *value*) [inline]

Sets the current Cache size.

Parameters:

value - the value to send as the broker's cache size.

6.451.2.23 void activemq::wireformat::openwire::OpenWireFormat::setMaxInactivityDuration (long long *value*) [inline]

Sets the MaxInactivityDuration setting.

Parameters:

value - the Max inactivity duration value in milliseconds.

6.451.2.24 void activemq::wireformat::openwire::OpenWireFormat::setMaxInactivityDurationInitialDelay (long long *value*) [inline]

Sets the MaxInactivityDurationInitialDelay setting.

Parameters:

value - the Max inactivity Initial Delay duration value in milliseconds.

6.451.2.25 void activemq::wireformat::openwire::OpenWireFormat::setPreferedWireFormatInfo (const Pointer< commands::WireFormatInfo > *info*)

Configures this object using the provided WireformatInfo object.

Parameters:

info A WireFormatInfo object, takes ownership.

Exceptions:

IllegalStateException if the **WireFormat** (p. 3211) object has not been initialized.

6.451.2.26 void activemq::wireformat::openwire::OpenWireFormat::setSizePrefixDisabled (bool *sizePrefixDisabled*) [inline]

Sets if the sizePrefixDisabled flag is on.

Parameters:

sizePrefixDisabled - true to turn flag is on

6.451.2.27 void activemq::wireformat::openwire::OpenWireFormat::setStackTraceEnabled (bool *stackTraceEnabled*) [inline]

Sets if the stackTraceEnabled flag is on.

Parameters:

stackTraceEnabled - true to turn flag is on

6.451.2.28 void activemq::wireformat::openwire::OpenWireFormat::setTcpNoDelayEnabled (bool *tcpNoDelayEnabled*) [inline]

Sets if the tcpNoDelayEnabled flag is on.

Parameters:

tcpNoDelayEnabled - true to turn flag is on

6.451.2.29 void activemq::wireformat::openwire::OpenWireFormat::setTightEncodingEnabled (bool *tightEncodingEnabled*) [inline]

Sets if the tightEncodingEnabled flag is on.

Parameters:

tightEncodingEnabled - true to turn flag is on

6.451.2.30 void activemq::wireformat::openwire::OpenWireFormat::setVersion (int *version*) [virtual]

Set the current Wireformat Version.

Parameters:

version An int that identifies the version

Exceptions:

IllegalArgumentException if the version given is not supported.

Implements **activemq::wireformat::WireFormat** (p. 3213).

6.451.2.31 virtual int activemq::wireformat::openwire::OpenWireFormat::tightMarshalNestedObject1 (commands::DataStructure * *object*, utils::BooleanStream * *bs*) [virtual]

Utility method for Tight Marshaling the given object to the boolean stream passed.

Parameters:

object - The DataStructure to **marshal** (p. 83)

bs - the BooleanStream to write to

Returns:

size of the data returned.

6.451.2.32 void activemq::wireformat::openwire::OpenWireFormat::tightMarshalNestedObject2 (commands::DataStructure * *o*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*)

Utility method that will Tight **marshal** (p. 83) some internally nested object that implements the DataStructure interface. Writes the data to the Data Output Stream provided.

Parameters:

o - DataStructure object

ds - DataOuputStream for writing

bs - BooleanStream

Exceptions:

IOException if an error occurs.

6.451.2.33 commands::DataStructure* activemq::wireformat::openwire::OpenWireFormat::tightUnmarshalNestedObject (decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*)

Utility method used to Unmarshal a Nested DataStructure type object from the given DataInputStream. The DataStructure instance that is returned is now the property of the caller.

Parameters:

dis - DataInputStream to read from

bs - BooleanStream to read from

Returns:

Newly allocated DataStructure Object

Exceptions:

IOException if an error occurs.

6.451.2.34 virtual Pointer<commands::Command> activemq::wireformat::openwire::OpenWireFormat::unmarshal (const activemq::transport::Transport * *transport*, decaf::io::DataInputStream * *in*) [virtual]

Stream based unmarshaling, blocks on reads on the input stream until a complete command has been read and unmarshaled into the correct form.

Returns a Pointer to the newly unmarshaled Command.

Parameters:

transport *(p. 72)* Pointer to the **transport** (p. 72) that is making this request.

in The input stream to read the command from.

Returns:

the newly marshaled Command, caller owns the pointer

Exceptions:

IOException if an I/O error occurs.

Implements **activemq::wireformat::WireFormat** (p. 3213).

6.451.3 Field Documentation

6.451.3.1 const int activemq::wireformat::openwire::OpenWireFormat::DEFAULT_VERSION [static, protected]

6.451.3.2 const int activemq::wireformat::openwire::OpenWireFormat::MAX_SUPPORTED_VERSION [static, protected]

6.451.3.3 const unsigned char activemq::wireformat::openwire::OpenWireFormat::NULL_TYPE [static, protected]

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/**OpenWireFormat.h**

6.452 activemq::wireformat::openwire::OpenWireFormatFactory Class Reference

`#include <src/main/activemq/wireformat/openwire/OpenWireFormatFactory.h>`Inheritance diagram for activemq::wireformat::openwire::OpenWireFormatFactory:

Public Member Functions

- **OpenWireFormatFactory** ()

  Constructor - Sets Defaults for all properties, these are all subject to change once the `createWireFormat` method is called.

- virtual ~**OpenWireFormatFactory** ()
- virtual **Pointer< wireformat::WireFormat > createWireFormat** (const **decaf::util::Properties** &properties)

  *Creates a new **WireFormat** (p. 3211) Object passing it a set of properties from which it can obtain any optional settings.*

6.452.1 Constructor & Destructor Documentation

6.452.1.1 activemq::wireformat::openwire::OpenWireFormatFactory::OpenWireFormatFactory () `[inline]`

Constructor - Sets Defaults for all properties, these are all subject to change once the `createWireFormat` method is called. URL options ---------- wireFormat.stackTraceEnabled wireFormat.cacheEnabled wireFormat.tcpNoDelayEnabled wireFormat.tightEncodingEnabled wireFormat.sizePrefixDisabled wireFormat.maxInactivityDuration wireFormat.maxInactivityDurationInitialDelay

6.452.1.2 virtual activemq::wireformat::openwire::OpenWireFormatFactory::~OpenWireFormatFactory () `[inline, virtual]`

6.452.2 Member Function Documentation

6.452.2.1 virtual Pointer<wireformat::WireFormat> activemq::wireformat::openwire::OpenWireFormatFactory::createWireFormat (const decaf::util::Properties & *properties*) `[virtual]`

Creates a new **WireFormat** (p. 3211) Object passing it a set of properties from which it can obtain any optional settings.

Parameters:

properties The Properties for this **WireFormat** (p. 3211).

Returns:

Pointer to a new instance of a **WireFormat** (p. 3211) object.

Exceptions:

IllegalStateException if the factory has not been initialized.

Implements **activemq::wireformat::WireFormatFactory** (p. 3215).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/**OpenWireFormatFactory.h**

6.453 activemq::wireformat::openwire::OpenWireFormatNegotiator Class Reference

`#include <src/main/activemq/wireformat/openwire/OpenWireFormatNegotiator.h>`Inheritance diagram for activemq::wireformat::openwire::OpenWireFormatNegotiator:

Public Member Functions

- **OpenWireFormatNegotiator** (**OpenWireFormat** *wireFormat, const **Pointer**< **transport::Transport** > **next**)

  Constructor - Initializes this object around another Transport.

- virtual ~**OpenWireFormatNegotiator** ()
- virtual void **oneway** (const **Pointer**< **commands::Command** > command)

  Sends a one-way command.

- virtual **Pointer**< **commands::Response** > **request** (const **Pointer**< **commands::Command** > command)

  Sends the given command to the broker and then waits for the response.

- virtual **Pointer**< **commands::Response** > **request** (const **Pointer**< **commands::Command** > command, unsigned int timeout)

  Sends the given command to the broker and then waits for the response.

- virtual void **onCommand** (const **Pointer**< **commands::Command** > command)

  Event handler for the receipt of a command.

- virtual void **onException** (const **decaf::lang::Exception** &ex)

  *Event handler for an exception from a command **transport** (p. 72).*

Protected Member Functions

- virtual void **afterNextIsStarted** ()

  Subclasses can override this method to do their own post startup work.

- virtual void **afterNextIsStopped** ()

  Subclasses can override this method to do their own stop work.

6.453.1 Constructor & Destructor Documentation

6.453.1.1 activemq::wireformat::openwire::OpenWireFormatNegotiator::OpenWireFormatNegotiator (OpenWireFormat * *wireFormat*, const Pointer< transport::Transport > *next*)

Constructor - Initializes this object around another Transport.

Parameters:

wireFormat - The **WireFormat** (p. 3211) object we use to negotiate

next - The next **transport** (p. 72) in the chain

6.453.1.2 virtual activemq::wireformat::openwire::OpenWireFormatNegotiator::~OpenWireFormatNegotiat () [virtual]

6.453.2 Member Function Documentation

6.453.2.1 virtual void activemq::wireformat::openwire::OpenWireFormatNegotiator::afterNextIsStarted () [protected, virtual]

Subclasses can override this method to do their own post startup work. This method will always be called after the doStart() method and the next transport's own **start()** (p. 3128) methods have been successfully run.

Reimplemented from **activemq::transport::TransportFilter** (p. 3121).

6.453.2.2 virtual void activemq::wireformat::openwire::OpenWireFormatNegotiator::afterNextIsStopped () [protected, virtual]

Subclasses can override this method to do their own stop work. This method is always called after all the next transports have been stopped to prevent this **transport** (p. 72) for destroying resources needed by the lower level transports.

Reimplemented from **activemq::transport::TransportFilter** (p. 3122).

6.453.2.3 virtual void activemq::wireformat::openwire::OpenWireFormatNegotiator::onCommand (const Pointer< commands::Command > *command*) [virtual]

Event handler for the receipt of a command.

Parameters:

command - the received command object.

Reimplemented from **activemq::transport::TransportFilter** (p. 3125).

6.453.2.4 virtual void activemq::wireformat::openwire::OpenWireFormatNegotiator::oneway (const Pointer< commands::Command > *command*) [virtual]

Sends a one-way command. Does not wait for any response from the broker.

Parameters:

command The command to be sent.

Exceptions:

IOException if an exception occurs during writing of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3125).

6.453.2.5 virtual void activemq::wireformat::openwire::OpenWireFormatNegotiator::onException (const decaf::lang::Exception & *ex*) [virtual]

Event handler for an exception from a command **transport** (p. 72).

Parameters:

ex The exception to handle.

Reimplemented from **activemq::transport::TransportFilter** (p. 3126).

6.453.2.6 virtual Pointer<commands::Response> activemq::wireformat::openwire::OpenWireFormatNegotiator::request (const Pointer< commands::Command > *command*, unsigned int *timeout*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command The command to be sent.

timeout The time to wait for this response.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3126).

6.453.2.7 virtual Pointer<commands::Response> activemq::wireformat::openwire::OpenWireFormatNegotiator::request (const Pointer< commands::Command > *command*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command the command to be sent.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3127).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/**OpenWireFormatNegotiator.h**

6.454 activemq::wireformat::openwire::OpenWireResponseBuilder Class Reference

Used to allow a MockTransport to generate response **commands** (p. 61) to OpenWire Commands.

`#include <src/main/activemq/wireformat/openwire/OpenWireResponseBuilder.h>`Inheritance diagram for activemq::wireformat::openwire::OpenWireResponseBuilder:

Public Member Functions

- **OpenWireResponseBuilder** ()
- virtual ~**OpenWireResponseBuilder** ()
- virtual **Pointer**< **commands::Response** > **buildResponse** (const **Pointer**< **commands::Command** > command)

  Given a Command, check if it requires a response and return the appropriate Response that the Broker would send for this Command.

- virtual void **buildIncomingCommands** (const **Pointer**< **commands::Command** > command, **decaf::util::LinkedList**< **Pointer**< **commands::Command** > > &queue)

  *When called the ResponseBuilder must construct all the Responses or Asynchronous **commands** (p. 61) that would be sent to this client by the Broker upon receipt of the passed command.*

6.454.1 Detailed Description

Used to allow a MockTransport to generate response **commands** (p. 61) to OpenWire Commands.

6.454.2 Constructor & Destructor Documentation

6.454.2.1 activemq::wireformat::openwire::OpenWireResponseBuilder::OpenWireResponseBuilder () [inline]

6.454.2.2 virtual activemq::wireformat::openwire::OpenWireResponseBuilder::~OpenWireResponseBuilder () [inline, virtual]

6.454.3 Member Function Documentation

6.454.3.1 virtual void activemq::wireformat::openwire::OpenWireResponseBuilder::buildIncomingCommands (const Pointer< commands::Command > *command*, decaf::util::LinkedList< Pointer< commands::Command > > & *queue*) [virtual]

When called the ResponseBuilder must construct all the Responses or Asynchronous **commands** (p. 61) that would be sent to this client by the Broker upon receipt of the passed command.

Parameters:

command - The Command being sent to the Broker.

queue - Queue of Command sent back from the broker.

Implements **activemq::transport::mock::ResponseBuilder** (p. 2595).

6.454.3.2 virtual Pointer<commands::Response> activemq::wireformat::openwire::OpenWireResponseBuilder::buildResponse (const Pointer< commands::Command > *command*) [virtual]

Given a Command, check if it requires a response and return the appropriate Response that the Broker would send for this Command.

Parameters:

command - The command to build a response for

Returns:

A Response object pointer, or NULL if no response.

Implements **activemq::transport::mock::ResponseBuilder** (p. 2596).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/**OpenWireResponseBuilder.h**

6.455 decaf::lang::exceptions::OutOfMemoryError Class Reference

`#include <src/main/decaf/lang/exceptions/OutOfMemoryError.h>`Inheritance diagram for decaf::lang::exceptions::OutOfMemoryError:

Public Member Functions

- **OutOfMemoryError** ()

  Default Constructor.

- **OutOfMemoryError** (const **Exception** &ex)

  Conversion Constructor from some other ***Exception*** *(*p. *1445**).*

- **OutOfMemoryError** (const **OutOfMemoryError** &ex)

  Copy Constructor.

- **OutOfMemoryError** (const std::exception *cause)

  Constructor.

- **OutOfMemoryError** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **OutOfMemoryError** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **OutOfMemoryError** * **clone** () const

  Clones this exception.

- virtual ~**OutOfMemoryError** () throw ()

6.455.1 Constructor & Destructor Documentation

6.455.1.1 decaf::lang::exceptions::OutOfMemoryError::OutOfMemoryError ()

Default Constructor.

6.455.1.2 decaf::lang::exceptions::OutOfMemoryError::OutOfMemoryError (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.455.1.3 decaf::lang::exceptions::OutOfMemoryError::OutOfMemoryError (const OutOfMemoryError & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.455.1.4 decaf::lang::exceptions::OutOfMemoryError::OutOfMemoryError (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.455.1.5 decaf::lang::exceptions::OutOfMemoryError::OutOfMemoryError (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.455.1.6 decaf::lang::exceptions::OutOfMemoryError::OutOfMemoryError (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.455.1.7 virtual decaf::lang::exceptions::OutOfMemoryError::~OutOfMemoryError () throw () [virtual]

6.455.2 Member Function Documentation

6.455.2.1 virtual OutOfMemoryError* decaf::lang::exceptions::OutOfMemoryError::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**OutOfMemoryError.h**

6.456 decaf::io::OutputStream Class Reference

Base interface for any class that wants to represent an output stream of bytes.

`#include <src/main/decaf/io/OutputStream.h>`Inheritance diagram for decaf::io::OutputStream:

Public Member Functions

- **OutputStream** ()
- virtual ~**OutputStream** ()
- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.
  The object is generally no longer usable after calling close.
  Exceptions:

  IOException *(*p. ***1774****)* *if an error occurs while closing.*

- virtual void **flush** ()

  Flushes this stream by writing any buffered output to the underlying stream.
  Exceptions:

  IOException *(*p. ***1774****)* *if an I/O error occurs.*

- virtual void **write** (unsigned char c)

  Writes a single byte to the output stream.

- virtual void **write** (const unsigned char *buffer, int size)

  Writes an array of bytes to the output stream.

- virtual void **write** (const unsigned char *buffer, int size, int offset, int length)

  Writes an array of bytes to the output stream in order starting at buffer[offset] and proceeding until the number of bytes specified by the length argument are written or an error occurs.

- virtual std::string **toString** () const

  Output a String representation of this object.

- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

  Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

Protected Member Functions

- virtual void **doWriteByte** (unsigned char value)=0
- virtual void **doWriteArray** (const unsigned char *buffer, int size)
- virtual void **doWriteArrayBounded** (const unsigned char *buffer, int size, int offset, int length)

6.456.1 Detailed Description

Base interface for any class that wants to represent an output stream of bytes.

Since:

1.0

6.456.2 Constructor & Destructor Documentation

6.456.2.1 decaf::io::OutputStream::OutputStream ()

6.456.2.2 virtual decaf::io::OutputStream::~OutputStream () [virtual]

6.456.3 Member Function Documentation

6.456.3.1 virtual void decaf::io::OutputStream::close () [virtual]

Closes this object and deallocates the appropriate resources.

The object is generally no longer usable after calling close.

Exceptions:

IOException *(*p. *1774**)* if an error occurs while closing.

The default implementation of this method does nothing.

Implements **decaf::io::Closeable** (p. 961).

Reimplemented in **decaf::internal::io::StandardErrorOutputStream** (p. 2830), **decaf::internal::io::StandardOutputStream** (p. 2834), **decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream** (p. 2308),

decaf::internal::net::tcp::TcpSocketOutputStream (p. 2988), **decaf::io::FilterOutputStream** (p. 1515), and **decaf::util::zip::DeflaterOutputStream** (p. 1355).

6.456.3.2 virtual void decaf::io::OutputStream::doWriteArray (const unsigned char * *buffer*, int *size*) [protected, virtual]

Reimplemented in **decaf::io::BufferedOutputStream** (p. 742), and **decaf::io::FilterOutputStream** (p. 1515).

6.456.3.3 virtual void decaf::io::OutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented in **activemq::io::LoggingOutputStream** (p. 1936), **decaf::internal::io::StandardErrorOutputStream** (p. 2830), **decaf::internal::io::StandardOutputStream** (p. 2835), **decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream** (p. 2308), **decaf::internal::net::tcp::TcpSocketOutputStream** (p. 2988), **decaf::io::BufferedOutputStream** (p. 742), **decaf::io::ByteArrayOutputStream** (p. 825), **decaf::io::DataOutputStream** (p. 1271), **decaf::io::FilterOutputStream** (p. 1516), **decaf::util::zip::CheckedOutputStream** (p. 949), and **decaf::util::zip::DeflaterOutputStream** (p. 1356).

6.456.3.4 virtual void decaf::io::OutputStream::doWriteByte (unsigned char *value*) [protected, pure virtual]

Implemented in **activemq::io::LoggingOutputStream** (p. 1937), **decaf::internal::io::StandardErrorOutputStream** (p. 2830), **decaf::internal::io::StandardOutputStream** (p. 2835), **decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream** (p. 2308), **decaf::internal::net::tcp::TcpSocketOutputStream** (p. 2988), **decaf::io::BufferedOutputStream** (p. 742), **decaf::io::ByteArrayOutputStream** (p. 825), **decaf::io::DataOutputStream** (p. 1271), **decaf::io::FilterOutputStream** (p. 1516), **decaf::util::zip::CheckedOutputStream** (p. 949), and **decaf::util::zip::DeflaterOutputStream** (p. 1356).

6.456.3.5 virtual void decaf::io::OutputStream::flush () [virtual]

Flushes this stream by writing any buffered output to the underlying stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

The default implementation of this method does nothing.

Implements **decaf::io::Flushable** (p. 1548).

Reimplemented in **decaf::internal::io::StandardErrorOutputStream** (p. 2830), **decaf::internal::io::StandardOutputStream** (p. 2835), **decaf::io::BufferedOutputStream** (p. 742), and **decaf::io::FilterOutputStream** (p. 1516).

6.456.3.6 virtual void decaf::io::OutputStream::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

6.456.3.7 virtual void decaf::io::OutputStream::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.456.3.8 virtual void decaf::io::OutputStream::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.456.3.9 virtual std::string decaf::io::OutputStream::toString () const [virtual]

Output a String representation of this object. The default version of this method just prints the Class Name.

Returns:

a string representation of the object.

Reimplemented in **decaf::io::ByteArrayOutputStream** (p. 826), and **decaf::io::FilterOutputStream** (p. 1516).

6.456.3.10 virtual bool decaf::io::OutputStream::tryLock () [inline, virtual]

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

6.456.3.11 virtual void decaf::io::OutputStream::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

6.456.3.12 virtual void decaf::io::OutputStream::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.456.3.13 virtual void decaf::io::OutputStream::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.456.3.14 virtual void decaf::io::OutputStream::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

6.456.3.15 virtual void decaf::io::OutputStream::write (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Writes an array of bytes to the output stream in order starting at buffer[offset] and proceeding until the number of bytes specified by the length argument are written or an error occurs. The default implementation of this method simply calls the doWriteArrayBounded method which writes the contents of the array using the doWriteByte method repeatedly. It is recommended that a subclass override doWriteArrayBounded to provide more performant means of writing the array.

Parameters:

buffer The array of bytes to write.

size The size of the buffer array passed.

offset The position to start writing in buffer.

length The number of bytes from the buffer to be written.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

NullPointerException thrown if buffer is Null.

IndexOutOfBoundsException if the offset + length > size. or one of the parameters is negative.

6.456.3.16 virtual void decaf::io::OutputStream::write (const unsigned char * *buffer*, int *size*) [virtual]

Writes an array of bytes to the output stream. The entire contents of the given vector are written to the output stream.

The default implementation of this method simply calls the doWriteArray which writes the contents of the array using the doWriteByte method repeatedly. It is recommended that a subclass override doWriteArray to provide more performant means of writing the array.

Parameters:

buffer The vector of bytes to write.

size The size of the buffer passed.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

NullPointerException thrown if buffer is Null.

IndexOutOfBoundsException if size value is negative.

6.456.3.17 virtual void decaf::io::OutputStream::write (unsigned char *c*) [virtual]

Writes a single byte to the output stream. The default implementation of this method calls the pure virtual method doWriteByte which must be implemented by any subclass of the **OutputStream** (p. 2333).

Parameters:

c The byte to write to the sink.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

The documentation for this class was generated from the following file:

- src/main/decaf/io/**OutputStream.h**

6.457 decaf::io::OutputStreamWriter Class Reference

A class for turning a character stream into a byte stream.

`#include <src/main/decaf/io/OutputStreamWriter.h>`Inheritance diagram for decaf::io::OutputStreamWriter:

Public Member Functions

- **OutputStreamWriter** (**OutputStream** *stream, bool own=false)

  *Creates a new **OutputStreamWriter** (p. 2340).*

- virtual ~**OutputStreamWriter** ()
- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual void **flush** ()

  Flushes this stream by writing any buffered output to the underlying stream.

Protected Member Functions

- virtual void **doWriteArrayBounded** (const char *buffer, int size, int offset, int length)

  Override this method to customize the functionality of the method write(char buffer, int size, int offset, int length).*

- virtual void **checkClosed** () const

6.457.1 Detailed Description

A class for turning a character stream into a byte stream.

See also:

InputStreamReader (p. 1704)

Since:

1.0

6.457.2 Constructor & Destructor Documentation

6.457.2.1 decaf::io::OutputStreamWriter::OutputStreamWriter (OutputStream * *stream*, bool *own* = `false`)

Creates a new **OutputStreamWriter** (p. 2340).

Parameters:

stream The **OutputStream** (p. 2333) to wrap. (cannot be NULL).

own Indicates whether this instance own the given **OutputStream** (p. 2333). If true then the **OutputStream** (p. 2333) is destroyed when this class is.

Exceptions:

NullPointerException if the stream is NULL.

6.457.2.2 virtual decaf::io::OutputStreamWriter::~OutputStreamWriter () [virtual]

6.457.3 Member Function Documentation

6.457.3.1 virtual void decaf::io::OutputStreamWriter::checkClosed () const [protected, virtual]

6.457.3.2 virtual void decaf::io::OutputStreamWriter::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

IOException *(p. 1774)* if an error occurs while closing.

Implements **decaf::io::Closeable** (p. 961).

6.457.3.3 virtual void decaf::io::OutputStreamWriter::doWriteArrayBounded (const char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Override this method to customize the functionality of the method write(char* buffer, int size, int offset, int length). All subclasses must override this method to provide the basic **Writer** (p. 3236) functionality.

Implements **decaf::io::Writer** (p. 3238).

6.457.3.4 virtual void decaf::io::OutputStreamWriter::flush () [virtual]

Flushes this stream by writing any buffered output to the underlying stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Implements **decaf::io::Flushable** (p. 1548).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**OutputStreamWriter.h**

6.458 activemq::commands::PartialCommand Class Reference

`#include <src/main/activemq/commands/PartialCommand.h>`Inheritance diagram for activemq::commands::PartialCommand:

Public Member Functions

- **PartialCommand** ()
- virtual ~**PartialCommand** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **PartialCommand** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual int **getCommandId** () const
- virtual void **setCommandId** (int **commandId**)
- virtual const std::vector< unsigned char > & **getData** () const
- virtual std::vector< unsigned char > & **getData** ()
- virtual void **setData** (const std::vector< unsigned char > &**data**)

Static Public Attributes

- static const unsigned char **ID_PARTIALCOMMAND** = 60

Protected Attributes

- int **commandId**
- std::vector< unsigned char > **data**

6.458.1 Constructor & Destructor Documentation

6.458.1.1 activemq::commands::PartialCommand::PartialCommand ()

6.458.1.2 virtual activemq::commands::PartialCommand::~PartialCommand () [virtual]

6.458.2 Member Function Documentation

6.458.2.1 virtual PartialCommand* activemq::commands::PartialCommand::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

Reimplemented in **activemq::commands::LastPartialCommand** (p. 1836).

6.458.2.2 virtual void activemq::commands::PartialCommand::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented in **activemq::commands::LastPartialCommand** (p. 1837).

6.458.2.3 virtual bool activemq::commands::PartialCommand::equals (const DataStructure * *value*) const [virtual]

Reimplemented in **activemq::commands::LastPartialCommand** (p. 1837).

6.458.2.4 virtual int activemq::commands::PartialCommand::getCommandId () const [virtual]

6.458.2.5 virtual std::vector<unsigned char>& activemq::commands::PartialCommand::getData () [virtual]

6.458.2.6 virtual const std::vector<unsigned char>& activemq::commands::PartialCommand::getData () const [virtual]

6.458.2.7 virtual unsigned char activemq::commands::PartialCommand::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

Reimplemented in **activemq::commands::LastPartialCommand** (p. 1837).

6.458.2.8 virtual void activemq::commands::PartialCommand::setCommandId (int *commandId*) [virtual]

6.458.2.9 virtual void activemq::commands::PartialCommand::setData (const std::vector< unsigned char > & *data*) [virtual]

6.458.2.10 virtual std::string activemq::commands::PartialCommand::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

Reimplemented in **activemq::commands::LastPartialCommand** (p. 1837).

6.458.3 Field Documentation

6.458.3.1 int activemq::commands::PartialCommand::commandId [protected]

6.458.3.2 std::vector<unsigned char> activemq::commands::PartialCommand::data [protected]

6.458.3.3 const unsigned char activemq::commands::PartialCommand::ID_PARTIALCOMMAND = 60 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**PartialCommand.h**

6.459 activemq::wireformat::openwire::marshal::generated::PartialComm Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **PartialCommandMarshaller** (p. 2345).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/PartialCommandMarshaller.h>`Inh
diagram for activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller:

Public Member Functions

- **PartialCommandMarshaller** ()
- virtual ~**PartialCommandMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.459.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **PartialCommandMarshaller** (p. 2345). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.459.2 Constructor & Destructor Documentation

6.459.2.1 activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller::PartialC () [inline]

6.459.2.2 virtual activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller::~Partia () [inline, virtual]

6.459.3 Member Function Documentation

6.459.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller::createObj () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1839).

6.459.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller::getDataSt () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1839).

6.459.3.3 virtual void activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller::looseMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1839).

6.459.3.4 virtual void activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller::looseUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1840).

6.459.3.5 virtual int activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1840).

6.459.3.6 virtual void activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1840).

6.459.3.7 virtual void activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller::tightUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller** (p. 1841).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**PartialCommandMarshaller.h**

6.460 decaf::internal::util::concurrent::PlatformThread Class Reference

`#include <src/main/decaf/internal/util/concurrent/PlatformThread.h>`

Static Public Member Functions

- static void **createMutex** (**decaf_mutex_t** *mutex)

  Creates a new Mutex instance at the location given by the mutex pointer argument.

- static void **lockMutex** (**decaf_mutex_t** mutex)
- static bool **tryLockMutex** (**decaf_mutex_t** mutex)
- static void **unlockMutex** (**decaf_mutex_t** mutex)
- static void **destroyMutex** (**decaf_mutex_t** mutex)
- static void **createRWMutex** (**decaf_rwmutex_t** *mutex)
- static void **readerLockMutex** (**decaf_rwmutex_t** mutex)
- static void **writerLockMutex** (**decaf_rwmutex_t** mutex)
- static bool **tryReaderLockMutex** (**decaf_rwmutex_t** mutex)
- static bool **tryWriterLockMutex** (**decaf_rwmutex_t** mutex)
- static void **unlockRWMutex** (**decaf_rwmutex_t** mutex)
- static void **destroyRWMutex** (**decaf_rwmutex_t** mutex)
- static void **createCondition** (**decaf_condition_t** *condition)
- static void **notify** (**decaf_condition_t** condition)
- static void **notifyAll** (**decaf_condition_t** condition)
- static void **waitOnCondition** (**decaf_condition_t** condition, **decaf_mutex_t** mutex)
- static bool **waitOnCondition** (**decaf_condition_t** condition, **decaf_mutex_t** mutex, long long mills, int nanos)
- static void **interruptibleWaitOnCondition** (**decaf_condition_t** condition, **decaf_mutex_t** mutex, **CompletionCondition** &complete)
- static bool **interruptibleWaitOnCondition** (**decaf_condition_t** condition, **decaf_mutex_t** mutex, long long mills, int nanos, **CompletionCondition** &complete)
- static void **destroyCondition** (**decaf_condition_t** condition)
- static void **initPriorityMapping** (int maxPriority, std::vector< int > &mapping)

  *Given the **Threading** (p. 3017) libraries max thread priority value, create a mapping to OS level thread priorities and place them in the provided vector.*

- static void **createNewThread** (**decaf_thread_t** *handle, **threadMainMethod**, void *threadArg, int priority, long long stackSize, long long *threadId)
- static void **detachThread** (**decaf_thread_t** handle)
- static void **detachOSThread** (**decaf_thread_t** handle)
- static void **joinThread** (**decaf_thread_t** handle)
- static void **exitThread** ()
- static **decaf_thread_t** **getCurrentThread** ()
- static **decaf_thread_t** **getSafeOSThreadHandle** ()
- static long long **getCurrentThreadId** ()
- static int **getPriority** (**decaf_thread_t** thread)
- static void **setPriority** (**decaf_thread_t** thread, int priority)
- static long long **getStackSize** (**decaf_thread_t** thread)
- static void **setStackSize** (**decaf_thread_t** thread, long long stackSize)
- static void **yeild** ()

Pause the current thread allowing another thread to be scheduled for execution, no guarantee that this will happen.

- static void **createTlsKey** (**decaf_tls_key** *key)
- static void **destroyTlsKey** (**decaf_tls_key** key)
- static void * **getTlsValue** (**decaf_tls_key** tlsKey)
- static void **setTlsValue** (**decaf_tls_key** tlsKey, void *value)

6.460.1 Member Function Documentation

6.460.1.1 static void decaf::internal::util::concurrent::PlatformThread::createCondition (decaf_condition_t * *condition*) [static]

6.460.1.2 static void decaf::internal::util::concurrent::PlatformThread::createMutex (decaf_mutex_t * *mutex*) [static]

Creates a new Mutex instance at the location given by the mutex pointer argument. The mutex must be destroyed by calling the destoryMutex method when it is no longer needed.

Parameters:

mutex Pointer to a memory location where the new Mutex is to be stored.

6.460.1.3 static void decaf::internal::util::concurrent::PlatformThread::createNewThread (decaf_thread_t * *handle*, threadMainMethod, void * *threadArg*, int *priority*, long long *stackSize*, long long * *threadId*) [static]

6.460.1.4 static void decaf::internal::util::concurrent::PlatformThread::createRWMutex (decaf_rwmutex_t * *mutex*) [static]

6.460.1.5 static void decaf::internal::util::concurrent::PlatformThread::createTlsKey (decaf_tls_key * *key*) [static]

6.460.1.6 static void decaf::internal::util::concurrent::PlatformThread::destroyCondition (decaf_condition_t *condition*) [static]

6.460.1.7 static void decaf::internal::util::concurrent::PlatformThread::destroyMutex (decaf_mutex_t *mutex*) [static]

6.460.1.8 static void decaf::internal::util::concurrent::PlatformThread::destroyRWMutex (decaf_rwmutex_t *mutex*) [static]

6.460.1.9 static void decaf::internal::util::concurrent::PlatformThread::destroyTlsKey (decaf_tls_key *key*) [static]

6.460.1.10 static void decaf::internal::util::concurrent::PlatformThread::detachOSThread (decaf_thread_t *handle*) [static]

6.460.1.11 static void decaf::internal::util::concurrent::PlatformThread::detachThread (decaf_thread_t *handle*) [static]

6.460.1.12 static void decaf::internal::util::concurrent::PlatformThread::exitThread () [static]

6.460.1.13 static decaf_thread_t decaf::internal::util::concurrent::PlatformThread::getCurrentThread () [static]

6.460.1.14 static long long decaf::internal::util::concurrent::PlatformThread::getCurrentThreadId () [static]

6.460.1.15 static int decaf::internal::util::concurrent::PlatformThread::getPriority (decaf_thread_t *thread*) [static]

6.460.1.16 static decaf_thread_t decaf::internal::util::concurrent::PlatformThread::getSafeOSThreadHandle () [static]

6.460.1.17 static long long decaf::internal::util::concurrent::PlatformThread::getStackSize (decaf_thread_t *thread*) [static]

6.460.1.18 static void* decaf::internal::util::concurrent::PlatformThread::getTlsValue (decaf_tls_key *tlsKey*) [static]

Threading (p. 3017) library to map its values to the OS level values on calls to other methods like createNewThread and setPriority, etc.

Parameters:

maxPriority The maximum value that the **Threading** (p. 3017) library uses for its priority range.

mapping A vector of int values that will be sized to maxPriority and maps the OS priority values to the **Threading** (p. 3017) libs range of priority values.

6.460.1.20 static bool decaf::internal::util::concurrent::PlatformThread::interruptibleWaitOnCondition (decaf_condition_t *condition*, decaf_mutex_t *mutex*, long long *mills*, int *nanos*, CompletionCondition & *complete*) [static]

Returns:

true if the condition wait met the timeout parameters without being signaled.

6.460.1.21 static void decaf::internal::util::concurrent::PlatformThread::interruptibleWaitOnCondition (decaf_condition_t *condition*, decaf_mutex_t *mutex*, CompletionCondition & *complete*) [static]

6.460.1.22 static void decaf::internal::util::concurrent::PlatformThread::joinThread (decaf_thread_t *handle*) [static]

6.460.1.23 static void decaf::internal::util::concurrent::PlatformThread::lockMutex (decaf_mutex_t *mutex*) [static]

6.460.1.24 static void decaf::internal::util::concurrent::PlatformThread::notify (decaf_condition_t *condition*) [static]

6.460.1.25 static void decaf::internal::util::concurrent::PlatformThread::notifyAll (decaf_condition_t *condition*) [static]

6.460.1.26 static void decaf::internal::util::concurrent::PlatformThread::readerLockMutex (decaf_rwmutex_t *mutex*) [static]

6.460.1.27 static void decaf::internal::util::concurrent::PlatformThread::setPriority (decaf_thread_t *thread*, int *priority*) [static]

6.460.1.28 static void decaf::internal::util::concurrent::PlatformThread::setStackSize (decaf_thread_t *thread*, long long *stackSize*) [static]

6.460.1.29 static void decaf::internal::util::concurrent::PlatformThread::setTlsValue (decaf_tls_key *tlsKey*, void * *value*) [static]

6.460.1.30 static bool decaf::internal::util::concurrent::PlatformThread::tryLockMutex (decaf_mutex_t *mutex*) [static]

6.460.1.31 static bool decaf::internal::util::concurrent::PlatformThread::tryReaderLockMutex (decaf_rwmutex_t *mutex*) [static]

6.460.1.32 static bool decaf::internal::util::concurrent::PlatformThread::tryWriterLockMutex (decaf_rwmutex_t *mutex*) [static]

6.460.1.33 static void decaf::internal::util::concurrent::PlatformThread::unlockMutex (decaf_mutex_t *mutex*) [static]

6.460.1.34 static void decaf::internal::util::concurrent::PlatformThread::unlockRWMutex (decaf_rwmutex_t *mutex*) [static]

6.460.1.35 static bool decaf::internal::util::concurrent::PlatformThread::waitOnCondition (decaf_condition_t *condition*, decaf_mutex_t *mutex*, long long *mills*, int *nanos*) [static]

Returns:

true if the condition wait met the timeout parameters.

6.460.1.36 static void decaf::internal::util::concurrent::PlatformThread::waitOnCondition (decaf_condition_t *condition*, decaf_mutex_t *mutex*) [static]

6.460.1.37 static void decaf::internal::util::concurrent::PlatformThread::writerLockMutex (decaf_rwmutex_t *mutex*) [static]

6.460.1.38 static void decaf::internal::util::concurrent::PlatformThread::yeild () [static]

Pause the current thread allowing another thread to be scheduled for execution, no guarantee that this will happen.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**PlatformThread.h**

6.461 decaf::lang::Pointer< T, REFCOUNTER > Class Template Reference

Decaf's implementation of a Smart **Pointer** (p. 2355) that is a template on a Type and is **Thread** (p. 3000) Safe if the default Reference Counter is used.

`#include <src/main/decaf/lang/Pointer.h>`

Public Types

- typedef T * **PointerType**
- typedef T & **ReferenceType**
- typedef REFCOUNTER **CounterType**

Public Member Functions

- **Pointer** ()

  Default Constructor.

- **Pointer** (const **PointerType** value)

  *Explicit Constructor, creates a **Pointer** (p. 2355) that contains value with a single reference.*

- **Pointer** (const **Pointer** &value)

  Copy constructor.

- template<typename T1 , typename R1 >
  Pointer (const **Pointer**< T1, R1 > &value)

  Copy constructor.

- template<typename T1 , typename R1 >
  Pointer (const **Pointer**< T1, R1 > &value, const **STATIC_CAST_TOKEN** &)

  Static Cast constructor.

- template<typename T1 , typename R1 >
  Pointer (const **Pointer**< T1, R1 > &value, const **DYNAMIC_CAST_TOKEN** &)

  Dynamic Cast constructor.

- virtual ~**Pointer** ()
- void **reset** (T *value=NULL)

  *Resets the **Pointer** (p. 2355) to hold the new value.*

- T * **release** ()

  *Releases the **Pointer** (p. 2355) held and resets the **internal** (p. 96) pointer value to Null.*

- **PointerType get** () const

  *Gets the real pointer that is contained within this **Pointer** (p. 2355).*

- void **swap** (**Pointer** &value)

  ***Exception** (p. 1445) Safe Swap Function.*

- **Pointer** & **operator**= (const **Pointer** &right)

  *Assigns the value of right to this **Pointer** (p. 2355) and increments the reference Count.*

- template<typename T1 , typename R1 >
  Pointer & **operator**= (const **Pointer**< T1, R1 > &right)
- **ReferenceType operator*** ()

  Dereference Operator, returns a reference to the Contained value.

- **ReferenceType operator*** () const
- **PointerType operator->** ()

  Indirection Operator, returns a pointer to the Contained value.

- **PointerType operator->** () const
- bool **operator!** () const
- template<typename T1 , typename R1 >
  bool **operator==** (const **Pointer**< T1, R1 > &right) const
- template<typename T1 , typename R1 >
  bool **operator!=** (const **Pointer**< T1, R1 > &right) const
- template<typename T1 >
  Pointer< T1, **CounterType** > **dynamicCast** () const
- template<typename T1 >
  Pointer< T1, **CounterType** > **staticCast** () const

Friends

- bool **operator==** (const **Pointer** &left, const T *right)
- bool **operator==** (const T *left, const **Pointer** &right)
- bool **operator!=** (const **Pointer** &left, const T *right)
- bool **operator!=** (const T *left, const **Pointer** &right)

6.461.1 Detailed Description

template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> class decaf::lang::Pointer< T, REFCOUNTER >

Decaf's implementation of a Smart **Pointer** (p. 2355) that is a template on a Type and is **Thread** (p. 3000) Safe if the default Reference Counter is used. This **Pointer** (p. 2355) type allows for the substitution of different Reference Counter implementations which provide a means of using invasive reference counting if desired using a custom implementation of `ReferenceCounter`.

The Decaf smart pointer provide comparison operators for comparing **Pointer** (p. 2355) instances in the same manner as normal pointer, except that it does not provide an overload of operators (<, <=, >, >=). To allow use of a **Pointer** (p. 2355) in a STL container that requires it, **Pointer** (p. 2355) provides an implementation of std::less.

Since:

1.0

6.461.2 Member Typedef Documentation

6.461.2.1 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> typedef REFCOUNTER decaf::lang::Pointer< T, REFCOUNTER >::CounterType

6.461.2.2 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> typedef T* decaf::lang::Pointer< T, REFCOUNTER >::PointerType

6.461.2.3 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> typedef T& decaf::lang::Pointer< T, REFCOUNTER >::ReferenceType

6.461.3 Constructor & Destructor Documentation

6.461.3.1 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> decaf::lang::Pointer< T, REFCOUNTER >::Pointer () [inline]

Default Constructor. Initialized the contained pointer to NULL, using the -> operator results in an exception unless reset to contain a real value.

Referenced by decaf::lang::Pointer< TransactionId >::reset().

6.461.3.2 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> decaf::lang::Pointer< T, REFCOUNTER >::Pointer (const PointerType *value*) [inline, explicit]

Explicit Constructor, creates a **Pointer** (p. 2355) that contains value with a single reference. This object now has ownership until a call to release.

Parameters:

value - The instance of the type we are containing here.

6.461.3.3 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> decaf::lang::Pointer< T, REFCOUNTER >::Pointer (const Pointer< T, REFCOUNTER > & *value*) [inline]

Copy constructor. Copies the value contained in the pointer to the new instance and increments the reference counter.

Parameters:

value Another instance of a Pointer<T> that this **Pointer** (p. 2355) will copy.

6.461.3.4 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> template<typename T1 , typename R1 > decaf::lang::Pointer< T, REFCOUNTER >::Pointer (const Pointer< T1, R1 > & *value*) [inline]

Copy constructor. Copies the value contained in the pointer to the new instance and increments the reference counter.

Parameters:

value A different but compatible **Pointer** (p. 2355) instance that this **Pointer** (p. 2355) will copy.

6.461.3.5 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> template<typename T1 , typename R1 > decaf::lang::Pointer< T, REFCOUNTER >::Pointer (const Pointer< T1, R1 > & *value*, const STATIC_CAST_TOKEN &) [inline]

Static Cast constructor. Copies the value contained in the pointer to the new instance and increments the reference counter performing a static cast on the value contained in the source **Pointer** (p. 2355) object.

Parameters:

value **Pointer** (p. 2355) instance to cast to this type using a static_cast.

6.461.3.6 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> template<typename T1 , typename R1 > decaf::lang::Pointer< T, REFCOUNTER >::Pointer (const Pointer< T1, R1 > & *value*, const DYNAMIC_CAST_TOKEN &) [inline]

Dynamic Cast constructor. Copies the value contained in the pointer to the new instance and increments the reference counter performing a dynamic cast on the value contained in the source **Pointer** (p. 2355) object. If the cast fails and return NULL then this method throws a ClassCastException.

Parameters:

value **Pointer** (p. 2355) instance to cast to this type using a dynamic_cast.

Exceptions:

ClassCastException if the dynamic cast returns NULL

6.461.3.7 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> virtual decaf::lang::Pointer< T, REFCOUNTER >::~Pointer () [inline, virtual]

6.461.4 Member Function Documentation

6.461.4.1 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> template<typename T1 > Pointer<T1, CounterType> decaf::lang::Pointer< T, REFCOUNTER >::dynamicCast () const [inline]

6.461.4.2 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> PointerType decaf::lang::Pointer< T, REFCOUNTER >::get () const [inline]

Gets the real pointer that is contained within this **Pointer** (p. 2355). This is not really safe since the caller could delete or alter the pointer but it mimics the STL auto_ptr and gives access in cases where the caller absolutely needs the real **Pointer** (p. 2355). Use at your own risk.

Returns:

the contained pointer.

Referenced by activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::equals(), activemq::state::ConnectionState::getTransactionState(), decaf::lang::operator!=(), decaf::lang::Pointer< TransactionId >::operator!=(), std::less< decaf::lang::Pointer< T > >::operator()(), decaf::lang::operator==(), decaf::lang::Pointer< TransactionId >::operator==(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::peek(), and decaf::util::concurrent::ExecutorService::submit().

6.461.4.3 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> bool decaf::lang::Pointer< T, REFCOUNTER >::operator! () const [inline]

6.461.4.4 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> template<typename T1 , typename R1 > bool decaf::lang::Pointer< T, REFCOUNTER >::operator!= (const Pointer< T1, R1 > & *right*) const [inline]

6.461.4.5 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> ReferenceType decaf::lang::Pointer< T, REFCOUNTER >::operator* () const [inline]

6.461.4.6 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> ReferenceType decaf::lang::Pointer< T, REFCOUNTER >::operator* () [inline]

Dereference Operator, returns a reference to the Contained value. This method throws an NullPointerException if the contained value is NULL.

Returns:

reference to the contained pointer.

Exceptions:

NullPointerException if the contained value is Null

6.461.4.7 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> PointerType decaf::lang::Pointer< T, REFCOUNTER >::operator-> () const [inline]

6.461.4.8 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> PointerType decaf::lang::Pointer< T, REFCOUNTER >::operator-> () [inline]

Indirection Operator, returns a pointer to the Contained value. This method throws an NullPointerException if the contained value is NULL.

Returns:

reference to the contained pointer.

Exceptions:

NullPointerException if the contained value is Null

6.461.4.9 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> template<typename T1 , typename R1 > Pointer& decaf::lang::Pointer< T, REFCOUNTER >::operator= (const Pointer< T1, R1 > & *right*) [inline]

6.461.4.10 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> Pointer& decaf::lang::Pointer< T, REFCOUNTER >::operator= (const Pointer< T, REFCOUNTER > & *right*) [inline]

Assigns the value of right to this **Pointer** (p. 2355) and increments the reference Count.

Parameters:

right - **Pointer** (p. 2355) on the right hand side of an operator= call to this.

6.461.4.11 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> template<typename T1 , typename R1 > bool decaf::lang::Pointer< T, REFCOUNTER >::operator== (const Pointer< T1, R1 > & *right*) const [inline]

6.461.4.12 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> T* decaf::lang::Pointer< T, REFCOUNTER >::release () [inline]

Releases the **Pointer** (p. 2355) held and resets the **internal** (p. 96) pointer value to Null. This method is not guaranteed to be safe if the **Pointer** (p. 2355) is held by more than one object or this method is called from more than one thread.

Returns:

The pointer instance that was held by this **Pointer** (p. 2355) object, the pointer is no longer owned by this **Pointer** (p. 2355) and won't be freed when this **Pointer** (p. 2355) goes out of scope.

Referenced by decaf::lang::Pointer< TransactionId >::Pointer(), and decaf::util::concurrent::ExecutorService::submit().

6.461.4.13 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> void decaf::lang::Pointer< T, REFCOUNTER >::reset (T * *value* = NULL) [inline]

Resets the **Pointer** (p. 2355) to hold the new value. Before the new value is stored reset checks if the old value should be destroyed and if so calls delete. Call reset with a value of NULL is supported and acts to set this **Pointer** (p. 2355) to a NULL pointer.

Parameters:

value The new value to contain or NULL to empty the pointer (default NULL if not set).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::CopyOnWriteArrayList(), decaf::util::StlMap< std::string, cms::Topic * >::entrySet(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::entrySet(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::entrySet(), decaf::util::StlMap< std::string, cms::Topic * >::keySet(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::keySet(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::keySet(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAt(), decaf::util::concurrent::CopyOnWriteArrayList< E >::retainAll(), decaf::util::StlMap< std::string, cms::Topic * >::values(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::values(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::values(), decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::~ArrayListIterator(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::~CopyOnWriteArrayList().

6.461.4.14 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> template<typename T1 > Pointer<T1, CounterType> decaf::lang::Pointer< T, REFCOUNTER >::staticCast () const [inline]

6.461.4.15 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> void decaf::lang::Pointer< T, REFCOUNTER >::swap (Pointer< T, REFCOUNTER > & *value*) [inline]

Exception (p. 1445) Safe Swap Function.

Parameters:

value The value to swap with this **Pointer** (p. 2355).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::add(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addIfAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::clear(), decaf::util::concurrent::CopyOnWriteArrayList< E >::CopyOnWriteArrayList(), decaf::lang::Pointer< TransactionId >::operator=(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAt(), decaf::util::concurrent::CopyOnWriteArrayList< E >::retainAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::set(), and decaf::lang::Pointer< TransactionId >::swap().

6.461.5 Friends And Related Function Documentation

6.461.5.1 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> bool operator!= (const T * *left*, const Pointer< T, REFCOUNTER > & *right*) [friend]

6.461.5.2 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> bool operator!= (const Pointer< T, REFCOUNTER > & *left*, const T * *right*) [friend]

6.461.5.3 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> bool operator== (const T * *left*, const Pointer< T, REFCOUNTER > & *right*) [friend]

6.461.5.4 template<typename T, typename REFCOUNTER = decaf::util::concurrent::atomic::AtomicRefCounter> bool operator== (const Pointer< T, REFCOUNTER > & *left*, const T * *right*) [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Pointer.h**

6.462 decaf::lang::PointerComparator< T, R > Class Template Reference

This implementation of Comparator is designed to allows objects in a Collection to be sorted or tested for equality based on the value of the Object being Pointed to and not the value of the contained pointer in the **Pointer** (p. 2355) instance.

`#include <src/main/decaf/lang/Pointer.h>`Inheritance diagram for decaf::lang::PointerComparator< T, R >:

Public Member Functions

- virtual ~**PointerComparator** ()
- virtual bool **operator()** (const **Pointer**< T, R > &left, const **Pointer**< T, R > &right) const
- virtual int **compare** (const **Pointer**< T, R > &left, const **Pointer**< T, R > &right) const

6.462.1 Detailed Description

template<typename T, typename R = decaf::util::concurrent::atomic::AtomicRefCounter>
class decaf::lang::PointerComparator< T, R >

This implementation of Comparator is designed to allows objects in a Collection to be sorted or tested for equality based on the value of the Object being Pointed to and not the value of the contained pointer in the **Pointer** (p. 2355) instance. This can be useful in the case where a series of values in a Collection is more efficiently accessed in the Objects Natural Order and not the underlying pointers location in memory.

Also this allows **Pointer** (p. 2355) objects that Point to different instances of the same type to be compared based on the comparison of the object itself and not just the value of the pointer.

6.462.2 Constructor & Destructor Documentation

6.462.2.1 template<typename T , typename R = decaf::util::concurrent::atomic::AtomicRefCounter> virtual decaf::lang::PointerComparator< T, R >::~PointerComparator () [inline, virtual]

6.462.3 Member Function Documentation

6.462.3.1 template<typename T , typename R = decaf::util::concurrent::atomic::AtomicRefCounter> virtual int decaf::lang::PointerComparator< T, R >::compare (const Pointer< T, R > & *left*, const Pointer< T, R > & *right*) const [inline, virtual]

6.462.3.2 template<typename T , typename R = decaf::util::concurrent::atomic::AtomicRefCounter> virtual bool decaf::lang::PointerComparator< T, R >::operator() (const Pointer< T, R > & *left*, const Pointer< T, R > & *right*) const [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Pointer.h**

6.463 activemq::cmsutil::PooledSession Class Reference

A pooled session object that wraps around a delegate session.

`#include <src/main/activemq/cmsutil/PooledSession.h>`Inheritance diagram for activemq::cmsutil::PooledSession:

Public Member Functions

- **PooledSession** (**SessionPool** *pool, **cms::Session** *session)
- virtual ~**PooledSession** ()

  Does nothing.

- virtual **cms::Session** * **getSession** ()

  Returns a non-constant reference to the internal session object.

- virtual const **cms::Session** * **getSession** () const

  Returns a constant reference to the internal session object.

- virtual void **close** ()

  Returns this session back to the pool, but does not close or destroy the internal session object.

- virtual void **start** ()

  Starts the service.

- virtual void **stop** ()

  Stops this service.

- virtual void **commit** ()

  Commits all messages done in this transaction and releases any locks currently held.

- virtual void **rollback** ()

  Rolls back all messages done in this transaction and releases any locks currently held.

- virtual void **recover** ()

  Stops message delivery in this session, and restarts message delivery with the oldest unacknowledged message.

- virtual **cms::MessageConsumer** * **createConsumer** (const **cms::Destination** *destination)

  Creates a MessageConsumer for the specified destination.

- virtual **cms::MessageConsumer** * **createConsumer** (const **cms::Destination** *destination, const std::string &selector)

  Creates a MessageConsumer for the specified destination, using a message selector.

- virtual **cms::MessageConsumer** * **createConsumer** (const **cms::Destination** *destination, const std::string &selector, bool noLocal)

Creates a MessageConsumer for the specified destination, using a message selector.

- virtual **cms::MessageConsumer** * **createDurableConsumer** (const **cms::Topic** *destination, const std::string &name, const std::string &selector, bool noLocal=false)

  Creates a durable subscriber to the specified topic, using a Message selector.

- virtual **cms::MessageConsumer** * **createCachedConsumer** (const **cms::Destination** *destination, const std::string &selector, bool noLocal)

  First checks the internal consumer cache and creates on if none exist for the given destination, selector, noLocal.

- virtual **cms::MessageProducer** * **createProducer** (const **cms::Destination** *destination)

  Creates a MessageProducer to send messages to the specified destination.

- virtual **cms::MessageProducer** * **createCachedProducer** (const **cms::Destination** *destination)

  First checks the internal producer cache and creates one if none exist for the given destination.

- virtual **cms::QueueBrowser** * **createBrowser** (const **cms::Queue** *queue)

  Creates a new QueueBrowser to peek at Messages on the given Queue.

- virtual **cms::QueueBrowser** * **createBrowser** (const **cms::Queue** *queue, const std::string &selector)

  Creates a new QueueBrowser to peek at Messages on the given Queue.

- virtual **cms::Queue** * **createQueue** (const std::string &queueName)

  Creates a queue identity given a Queue name.

- virtual **cms::Topic** * **createTopic** (const std::string &topicName)

  Creates a topic identity given a Queue name.

- virtual **cms::TemporaryQueue** * **createTemporaryQueue** ()

  Creates a TemporaryQueue object.

- virtual **cms::TemporaryTopic** * **createTemporaryTopic** ()

  Creates a TemporaryTopic object.

- virtual **cms::Message** * **createMessage** ()

  Creates a new Message.

- virtual **cms::BytesMessage** * **createBytesMessage** ()

  Creates a BytesMessage.

- virtual **cms::BytesMessage** * **createBytesMessage** (const unsigned char *bytes, int bytesSize)

  Creates a BytesMessage and sets the payload to the passed value.

- virtual **cms::StreamMessage** * **createStreamMessage** ()

  Creates a new StreamMessage.

- virtual **cms::TextMessage** * **createTextMessage** ()
  Creates a new TextMessage.
- virtual **cms::TextMessage** * **createTextMessage** (const std::string &text)
  Creates a new TextMessage and set the text to the value given.
- virtual **cms::MapMessage** * **createMapMessage** ()
  Creates a new MapMessage.
- virtual **cms::Session::AcknowledgeMode getAcknowledgeMode** () const
  Returns the acknowledgment mode of the session.
- virtual bool **isTransacted** () const
  Gets if the Sessions is a Transacted Session.
- virtual void **unsubscribe** (const std::string &name)
  Unsubscribes a durable subscription that has been created by a client.
- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)
  Set an MessageTransformer instance that is passed on to all MessageProducer and MessageConsumer objects created from this Session.
- virtual **cms::MessageTransformer** * **getMessageTransformer** () const
  Gets the currently configured MessageTransformer for this Session.

6.463.1 Detailed Description

A pooled session object that wraps around a delegate session. Calls to close this session only result in giving the session back to the pool.

6.463.2 Constructor & Destructor Documentation

6.463.2.1 activemq::cmsutil::PooledSession::PooledSession (SessionPool * *pool*, cms::Session * *session*)

6.463.2.2 virtual activemq::cmsutil::PooledSession::~PooledSession () [virtual]

Does nothing.

6.463.3 Member Function Documentation

6.463.3.1 virtual void activemq::cmsutil::PooledSession::close () [virtual]

Returns this session back to the pool, but does not close or destroy the internal session object.

Exceptions:

CMSException if an error occurs while performing this operation.

Implements **cms::Session** (p. 2668).

6.463.3.2 virtual void activemq::cmsutil::PooledSession::commit () [inline, virtual]

Commits all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.

IllegalStateException - if the method is not called by a transacted session.

Implements **cms::Session** (p. 2669).

References cms::Session::commit().

6.463.3.3 virtual cms::QueueBrowser* activemq::cmsutil::PooledSession::createBrowser (const cms::Queue * *queue*, const std::string & *selector*) [virtual]

Creates a new QueueBrowser to peek at Messages on the given Queue.

Parameters:

queue the Queue to browse

selector the Message selector to filter which messages are browsed.

Returns:

New QueueBrowser that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if the destination given is invalid.

Implements **cms::Session** (p. 2669).

6.463.3.4 virtual cms::QueueBrowser* activemq::cmsutil::PooledSession::createBrowser (const cms::Queue * *queue*) [virtual]

Creates a new QueueBrowser to peek at Messages on the given Queue.

Parameters:

queue the Queue to browse

Returns:

New QueueBrowser that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if the destination given is invalid.

Implements **cms::Session** (p. 2669).

6.463.3.5 virtual cms::BytesMessage* activemq::cmsutil::PooledSession::createBytesMessage (const unsigned char * *bytes*, int *bytesSize*) [inline, virtual]

Creates a BytesMessage and sets the payload to the passed value.

Parameters:

bytes an array of bytes to set in the message

bytesSize the size of the bytes array, or number of bytes to use

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2670).

References cms::Session::createBytesMessage().

6.463.3.6 virtual cms::BytesMessage* activemq::cmsutil::PooledSession::createBytesMessage () [inline, virtual]

Creates a BytesMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2670).

References cms::Session::createBytesMessage().

6.463.3.7 virtual cms::MessageConsumer* activemq::cmsutil::PooledSession::createCachedConsumer (const cms::Destination * *destination*, const std::string & *selector*, bool *noLocal*) [virtual]

First checks the internal consumer cache and creates on if none exist for the given destination, selector, noLocal. If created, the consumer is added to the pool's lifecycle manager.

Parameters:

destination the destination to receive on

selector the selector to use

noLocal whether or not to receive messages from the same connection

Returns:

the consumer resource

Exceptions:

cms::CMSException (p. ***973***) if something goes wrong.

6.463.3.8 virtual cms::MessageProducer* activemq::cmsutil::PooledSession::createCachedProducer (const cms::Destination * *destination*) [virtual]

First checks the internal producer cache and creates one if none exist for the given destination. If created, the producer is added to the pool's lifecycle manager.

Parameters:

destination the destination to send on

Returns:

the producer resource

Exceptions:

cms::CMSException *(*p. ***973)*** if something goes wrong.

6.463.3.9 virtual cms::MessageConsumer* activemq::cmsutil::PooledSession::createConsumer (const cms::Destination * *destination*, const std::string & *selector*, bool *noLocal*) [inline, virtual]

Creates a MessageConsumer for the specified destination, using a message selector.

Parameters:

destination the Destination that this consumer receiving messages for.

selector the Message Selector to use

noLocal if true, and the destination is a topic, inhibits the delivery of messages published by its own connection. The behavior for NoLocal is not specified if the destination is a queue.

Returns:

pointer to a new MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

InvalidSelectorException - if the message selector is invalid.

Implements **cms::Session** (p. 2670).

References cms::Session::createConsumer().

6.463.3.10 virtual cms::MessageConsumer* activemq::cmsutil::PooledSession::createConsumer (const cms::Destination * *destination*, const std::string & *selector*) [inline, virtual]

Creates a MessageConsumer for the specified destination, using a message selector.

Parameters:

destination the Destination that this consumer receiving messages for.

selector the Message Selector to use

Returns:

pointer to a new MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

InvalidSelectorException - if the message selector is invalid.

Implements **cms::Session** (p. 2671).

References cms::Session::createConsumer().

6.463.3.11 virtual cms::MessageConsumer* activemq::cmsutil::PooledSession::createConsumer (const cms::Destination * *destination*) [inline, virtual]

Creates a MessageConsumer for the specified destination.

Parameters:

destination the Destination that this consumer receiving messages for.

Returns:

pointer to a new MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

Implements **cms::Session** (p. 2671).

References cms::Session::createConsumer().

6.463.3.12 virtual cms::MessageConsumer* activemq::cmsutil::PooledSession::createDurableConsumer (const cms::Topic * *destination*, const std::string & *name*, const std::string & *selector*, bool *noLocal* = false) [inline, virtual]

Creates a durable subscriber to the specified topic, using a Message selector. Sessions that create durable consumers must use the same client Id as was used the last time the subscription was created in order to receive all messages that were delivered while the client was offline.

Parameters:

destination the topic to subscribe to

name The name used to identify the subscription

selector the Message Selector to use

noLocal if true, and the destination is a topic, inhibits the delivery of messages published by its own connection. The behavior for NoLocal is not specified if the destination is a queue.

Returns:

pointer to a new durable MessageConsumer that is owned by the caller (caller deletes)

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

InvalidSelectorException - if the message selector is invalid.

Implements **cms::Session** (p. 2672).

References cms::Session::createDurableConsumer().

6.463.3.13 virtual cms::MapMessage* activemq::cmsutil::PooledSession::createMapMessage () [inline, virtual]

Creates a new MapMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2672).

References cms::Session::createMapMessage().

6.463.3.14 virtual cms::Message* activemq::cmsutil::PooledSession::createMessage () [inline, virtual]

Creates a new Message.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2673).

References cms::Session::createMessage().

6.463.3.15 virtual cms::MessageProducer* activemq::cmsutil::PooledSession::createProducer (const cms::Destination * *destination*) [inline, virtual]

Creates a MessageProducer to send messages to the specified destination.

Parameters:

destination the Destination to send on

Returns:

New MessageProducer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

InvalidDestinationException - if an invalid destination is specified.

Implements **cms::Session** (p. 2673).

References cms::Session::createProducer().

6.463.3.16 virtual cms::Queue* activemq::cmsutil::PooledSession::createQueue (const std::string & *queueName*) [inline, virtual]

Creates a queue identity given a Queue name.

Parameters:

queueName the name of the new Queue

Returns:

new Queue pointer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2673).

References cms::Session::createQueue().

6.463.3.17 virtual cms::StreamMessage* activemq::cmsutil::PooledSession::createStreamMessage () [inline, virtual]

Creates a new StreamMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2674).

References cms::Session::createStreamMessage().

6.463.3.18 virtual cms::TemporaryQueue* activemq::cmsutil::PooledSession::createTemporaryQueue () [inline, virtual]

Creates a TemporaryQueue object.

Returns:

new TemporaryQueue pointer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2674).

References cms::Session::createTemporaryQueue().

6.463.3.19 virtual cms::TemporaryTopic* activemq::cmsutil::PooledSession::createTemporaryTopic () [inline, virtual]

Creates a TemporaryTopic object.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2674).

References cms::Session::createTemporaryTopic().

6.463.3.20 virtual cms::TextMessage* activemq::cmsutil::PooledSession::createTextMessage (const std::string & *text*) [inline, virtual]

Creates a new TextMessage and set the text to the value given.

Parameters:

text the initial text for the message

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2675).

References cms::Session::createTextMessage().

6.463.3.21 virtual cms::TextMessage* activemq::cmsutil::PooledSession::createTextMessage () [inline, virtual]

Creates a new TextMessage.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2675).

References cms::Session::createTextMessage().

6.463.3.22 virtual cms::Topic* activemq::cmsutil::PooledSession::createTopic (const std::string & *topicName*) [inline, virtual]

Creates a topic identity given a Queue name.

Parameters:

topicName the name of the new Topic

Returns:

new Topic pointer that is owned by the caller.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2675).

References cms::Session::createTopic().

6.463.3.23 virtual cms::Session::AcknowledgeMode activemq::cmsutil::PooledSession::getAcknowledgeMode () const [inline, virtual]

Returns the acknowledgment mode of the session.

Returns:

the Sessions Acknowledge Mode

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2676).

References cms::Session::getAcknowledgeMode().

6.463.3.24 virtual cms::MessageTransformer* activemq::cmsutil::PooledSession::getMessageTransformer () const [inline, virtual]

Gets the currently configured MessageTransformer for this Session.

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implements **cms::Session** (p. 2676).

References cms::Session::getMessageTransformer().

6.463.3.25 virtual const cms::Session* activemq::cmsutil::PooledSession::getSession () const [inline, virtual]

Returns a constant reference to the internal session object.

Returns:

the session object.

6.463.3.26 virtual cms::Session* activemq::cmsutil::PooledSession::getSession () [inline, virtual]

Returns a non-constant reference to the internal session object.

Returns:

the session object.

6.463.3.27 virtual bool activemq::cmsutil::PooledSession::isTransacted () const [inline, virtual]

Gets if the Sessions is a Transacted Session.

Returns:

transacted true - false.

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2676).

References cms::Session::isTransacted().

6.463.3.28 virtual void activemq::cmsutil::PooledSession::recover () [inline, virtual]

Stops message delivery in this session, and restarts message delivery with the oldest unacknowledged message. All consumers deliver messages in a serial order. Acknowledging a received message automatically acknowledges all messages that have been delivered to the client.

Restarting a session causes it to take the following actions:

- Stop message delivery
- Mark all messages that might have been delivered but not acknowledged as "redelivered"
- Restart the delivery sequence including all unacknowledged messages that had been previously delivered. Redelivered messages do not have to be delivered in exactly their original delivery order.

Exceptions:

CMSException - if the CMS provider fails to stop and restart message delivery due to some internal error.

IllegalStateException - if the method is called by a transacted session.

Implements **cms::Session** (p. 2677).

References cms::Session::recover().

6.463.3.29 virtual void activemq::cmsutil::PooledSession::rollback () [inline, virtual]

Rolls back all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException - If an internal error occurs.

IllegalStateException - if the method is not called by a transacted session.

Implements **cms::Session** (p. 2677).

References cms::Session::rollback().

6.463.3.30 virtual void activemq::cmsutil::PooledSession::setMessageTransformer (cms::MessageTransformer * *transformer*) [inline, virtual]

Set an MessageTransformer instance that is passed on to all MessageProducer and MessageConsumer objects created from this Session. The CMS **code** (p. 999) never takes ownership of the MessageTransformer pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the MessageTransformer has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to set on all MessageConsumers and MessageProducers.

Implements **cms::Session** (p. 2677).

References cms::Session::setMessageTransformer().

6.463.3.31 virtual void activemq::cmsutil::PooledSession::start () [inline, virtual]

Starts the service.

Exceptions:

CMSException if an internal error occurs while starting.

Implements **cms::Startable** (p. 2836).

References cms::Startable::start().

6.463.3.32 virtual void activemq::cmsutil::PooledSession::stop () [inline, virtual]

Stops this service.

Exceptions:

CMSException - if an internal error occurs while stopping the Service.

Implements **cms::Stoppable** (p. 2903).

References cms::Stoppable::stop().

6.463.3.33 virtual void activemq::cmsutil::PooledSession::unsubscribe (const std::string & *name*) [inline, virtual]

Unsubscribes a durable subscription that has been created by a client. This method deletes the **state** (p. 70) being maintained on behalf of the subscriber by its provider. It is erroneous for a client to delete a durable subscription while there is an active MessageConsumer or Subscriber for the subscription, or while a consumed message is part of a pending transaction or has not been acknowledged in the session.

Parameters:

name The name used to identify this subscription

Exceptions:

CMSException - If an internal error occurs.

Implements **cms::Session** (p. 2678).

References cms::Session::unsubscribe().

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**PooledSession.h**

6.464 decaf::net::PortUnreachableException Class Reference

`#include <src/main/decaf/net/PortUnreachableException.h>`Inheritance diagram for decaf::net::PortUnreachableException:

Public Member Functions

- **PortUnreachableException** ()

  Default Constructor.

- **PortUnreachableException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **PortUnreachableException** (const **PortUnreachableException** &ex)

  Copy Constructor.

- **PortUnreachableException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **PortUnreachableException** (const std::exception *cause)

  Constructor.

- **PortUnreachableException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **PortUnreachableException** * **clone** () const

  Clones this exception.

- virtual ~**PortUnreachableException** () throw ()

6.464.1 Constructor & Destructor Documentation

6.464.1.1 decaf::net::PortUnreachableException::PortUnreachableException ()

Default Constructor.

6.464.1.2 decaf::net::PortUnreachableException::PortUnreachableException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.464.1.3 decaf::net::PortUnreachableException::PortUnreachableException (const PortUnreachableException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.464.1.4 decaf::net::PortUnreachableException::PortUnreachableException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.464.1.5 decaf::net::PortUnreachableException::PortUnreachableException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.464.1.6 decaf::net::PortUnreachableException::PortUnreachableException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.464.1.7 virtual decaf::net::PortUnreachableException::~PortUnreachableException () throw () [virtual]

6.464.2 Member Function Documentation

6.464.2.1 virtual PortUnreachableException* decaf::net::PortUnreachableException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::net::SocketException** (p. 2773).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**PortUnreachableException.h**

6.465 activemq::core::PrefetchPolicy Class Reference

Interface for a Policy object that controls message Prefetching on various destination types in ActiveMQ-CPP.

`#include <src/main/activemq/core/PrefetchPolicy.h>`Inheritance diagram for activemq::core::PrefetchPolicy:

Public Member Functions

- virtual ~**PrefetchPolicy** ()
- virtual void **setDurableTopicPrefetch** (int value)=0

  Sets the amount of prefetched messages for a Durable Topic.

- virtual int **getDurableTopicPrefetch** () const =0

  Gets the amount of messages to prefetch for a Durable Topic.

- virtual void **setQueuePrefetch** (int value)=0

  Sets the amount of prefetched messages for a Queue.

- virtual int **getQueuePrefetch** () const =0

  Gets the amount of messages to prefetch for a Queue.

- virtual void **setQueueBrowserPrefetch** (int value)=0

  Sets the amount of prefetched messages for a Queue Browser.

- virtual int **getQueueBrowserPrefetch** () const =0

  Gets the amount of messages to prefetch for a Queue Browser.

- virtual void **setTopicPrefetch** (int value)=0

  Sets the amount of prefetched messages for a Topic.

- virtual int **getTopicPrefetch** () const =0

  Gets the amount of messages to prefetch for a Topic.

- virtual int **getMaxPrefetchLimit** (int value) const =0

  Given a requested value for a new prefetch limit, compare it against some max prefetch value and return either the requested value or the maximum allowable value for prefetch.

- virtual **PrefetchPolicy** * **clone** () const =0

  Clone the Policy and return a new pointer to that clone.

- virtual void **configure** (const **decaf::util::Properties** &properties)

  Checks the supplied properties object for properties matching the configurable settings of this class.

Protected Member Functions

- **PrefetchPolicy** ()

6.465.1 Detailed Description

Interface for a Policy object that controls message Prefetching on various destination types in ActiveMQ-CPP.

Since:

3.2.0

6.465.2 Constructor & Destructor Documentation

6.465.2.1 activemq::core::PrefetchPolicy::PrefetchPolicy () [protected]

6.465.2.2 virtual activemq::core::PrefetchPolicy::~PrefetchPolicy () [virtual]

6.465.3 Member Function Documentation

6.465.3.1 virtual PrefetchPolicy* activemq::core::PrefetchPolicy::clone () const [pure virtual]

Clone the Policy and return a new pointer to that clone.

Returns:

pointer to a new **PrefetchPolicy** (p. 2382) instance that is a clone of this one.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1309).

6.465.3.2 virtual void activemq::core::PrefetchPolicy::configure (const decaf::util::Properties & *properties*) [virtual]

Checks the supplied properties object for properties matching the configurable settings of this class. The default implementation looks for properties named with the prefix cms.PrefetchPolicy.XXX where XXX is the name of a property with a public setter method. For instance cms.PrefetchPolicy.topicPrefetch will be used to set the value of the topic prefetch limit.

Subclasses can override this method to add more configuration options or to exclude certain parameters from being set via the properties object.

Parameters:

properties The Properties object used to configure this object.

Exceptions:

NumberFormatException if a property that is numeric cannot be converted

IllegalArgumentException if a property can't be converted to the correct type.

6.465.3.3 virtual int activemq::core::PrefetchPolicy::getDurableTopicPrefetch () const [pure virtual]

Gets the amount of messages to prefetch for a Durable Topic.

Returns:

value of the number of messages to prefetch.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1309).

6.465.3.4 virtual int activemq::core::PrefetchPolicy::getMaxPrefetchLimit (int *value*) const [pure virtual]

Given a requested value for a new prefetch limit, compare it against some max prefetch value and return either the requested value or the maximum allowable value for prefetch.

Returns:

the allowable value for a prefetch limit, either requested or the max.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1309).

6.465.3.5 virtual int activemq::core::PrefetchPolicy::getQueueBrowserPrefetch () const [pure virtual]

Gets the amount of messages to prefetch for a Queue Browser.

Returns:

value of the number of messages to prefetch.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1309).

6.465.3.6 virtual int activemq::core::PrefetchPolicy::getQueuePrefetch () const [pure virtual]

Gets the amount of messages to prefetch for a Queue.

Returns:

value of the number of messages to prefetch.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1310).

6.465.3.7 virtual int activemq::core::PrefetchPolicy::getTopicPrefetch () const [pure virtual]

Gets the amount of messages to prefetch for a Topic.

Returns:

value of the number of messages to prefetch.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1310).

6.465.3.8 virtual void activemq::core::PrefetchPolicy::setDurableTopicPrefetch (int *value*) [pure virtual]

Sets the amount of prefetched messages for a Durable Topic.

Parameters:

value The number of messages to prefetch.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1310).

6.465.3.9 virtual void activemq::core::PrefetchPolicy::setQueueBrowserPrefetch (int *value*) [pure virtual]

Sets the amount of prefetched messages for a Queue Browser.

Parameters:

value The number of messages to prefetch.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1310).

6.465.3.10 virtual void activemq::core::PrefetchPolicy::setQueuePrefetch (int *value*) [pure virtual]

Sets the amount of prefetched messages for a Queue.

Parameters:

value The number of messages to prefetch.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1311).

6.465.3.11 virtual void activemq::core::PrefetchPolicy::setTopicPrefetch (int *value*) [pure virtual]

Sets the amount of prefetched messages for a Topic.

Parameters:

value The number of messages to prefetch.

Implemented in **activemq::core::policies::DefaultPrefetchPolicy** (p. 1311).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**PrefetchPolicy.h**

6.466 activemq::util::PrimitiveList Class Reference

List of primitives.

`#include <src/main/activemq/util/PrimitiveList.h>`Inheritance diagram for activemq::util::PrimitiveList:

Public Member Functions

- **PrimitiveList** ()

  Default Constructor, creates an Empty list.

- virtual ~**PrimitiveList** ()
- **PrimitiveList** (const **decaf::util::List**< **PrimitiveValueNode** > &src)

  Copy Constructor.

- **PrimitiveList** (const **PrimitiveList** &src)

  Copy Constructor.

- std::string **toString** () const

  Converts the contents into a formatted string that can be output in a Log File or other debugging tool.

- virtual bool **getBool** (int index) const

  Gets the Boolean value at the specified index.

- virtual void **setBool** (int index, bool value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

- virtual unsigned char **getByte** (int index) const

  Gets the Byte value at the specified index.

- virtual void **setByte** (int index, unsigned char value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

- virtual char **getChar** (int index) const

  Gets the Character value at the specified index.

- virtual void **setChar** (int index, char value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

- virtual short **getShort** (int index) const

  Gets the Short value at the specified index.

- virtual void **setShort** (int index, short value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

- virtual int **getInt** (int index) const

  Gets the Integer value at the specified index.

- virtual void **setInt** (int index, int value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

- virtual long long **getLong** (int index) const

  Gets the Long value at the specified index.

- virtual void **setLong** (int index, long long value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

- virtual float **getFloat** (int index) const

  Gets the Float value at the specified index.

- virtual void **setFloat** (int index, float value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

- virtual double **getDouble** (int index) const

  Gets the Double value at the specified index.

- virtual void **setDouble** (int index, double value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

- virtual std::string **getString** (int index) const

  Gets the String value at the specified index.

- virtual void **setString** (int index, const std::string &value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

- virtual std::vector< unsigned char > **getByteArray** (int index) const

  Gets the Byte Array value at the specified index.

- virtual void **setByteArray** (int index, const std::vector< unsigned char > &value)

  Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

6.466.1 Detailed Description

List of primitives.

6.466.2 Constructor & Destructor Documentation

6.466.2.1 activemq::util::PrimitiveList::PrimitiveList ()

Default Constructor, creates an Empty list.

6.466.2.2 virtual activemq::util::PrimitiveList::~PrimitiveList () [virtual]

6.466.2.3 activemq::util::PrimitiveList::PrimitiveList (const decaf::util::List< PrimitiveValueNode > & *src*)

Copy Constructor.

Parameters:

src - the Decaf List of PrimtiveNodeValues to copy

6.466.2.4 activemq::util::PrimitiveList::PrimitiveList (const PrimitiveList & *src*)

Copy Constructor.

Parameters:

src - the **PrimitiveList** (p. 2386) to copy

6.466.3 Member Function Documentation

6.466.3.1 virtual bool activemq::util::PrimitiveList::getBool (int *index*) const [virtual]

Gets the Boolean value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.2 virtual unsigned char activemq::util::PrimitiveList::getByte (int *index*) const [virtual]

Gets the Byte value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.3 virtual std::vector<unsigned char> activemq::util::PrimitiveList::getByteArray (int *index*) const [virtual]

Gets the Byte Array value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.4 virtual char activemq::util::PrimitiveList::getChar (int *index*) const [virtual]

Gets the Character value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.5 virtual double activemq::util::PrimitiveList::getDouble (int *index*) const [virtual]

Gets the Double value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.6 virtual float activemq::util::PrimitiveList::getFloat (int *index*) const [virtual]

Gets the Float value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.7 virtual int activemq::util::PrimitiveList::getInt (int *index*) const [virtual]

Gets the Integer value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.8 virtual long long activemq::util::PrimitiveList::getLong (int *index*) const [virtual]

Gets the Long value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.9 virtual short activemq::util::PrimitiveList::getShort (int *index*) const [virtual]

Gets the Short value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.10 virtual std::string activemq::util::PrimitiveList::getString (int *index*) const [virtual]

Gets the String value at the specified index.

Parameters:

index - index to get value from

Returns:

value contained at the given index

Exceptions:

IndexOutOfBoundsException if index is > **size()** (p. 1887)

UnsupportedOperationException if the type at index is not of the type that this method is to return or can convert to.

6.466.3.11 virtual void activemq::util::PrimitiveList::setBool (int *index*, bool *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.12 virtual void activemq::util::PrimitiveList::setByte (int *index*, unsigned char *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.13 virtual void activemq::util::PrimitiveList::setByteArray (int *index*, const std::vector< unsigned char > & *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.14 virtual void activemq::util::PrimitiveList::setChar (int *index*, char *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.15 virtual void activemq::util::PrimitiveList::setDouble (int *index*, double *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.16 virtual void activemq::util::PrimitiveList::setFloat (int *index*, float *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.17 virtual void activemq::util::PrimitiveList::setInt (int *index*, int *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.18 virtual void activemq::util::PrimitiveList::setLong (int *index*, long long *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.19 virtual void activemq::util::PrimitiveList::setShort (int *index*, short *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.20 virtual void activemq::util::PrimitiveList::setString (int *index*, const std::string & *value*) [virtual]

Sets the value at the given index to the new value specified, this method overwrites any data that was previously at the index given, but does not insert a new element if the index is greater than the size of the list.

Parameters:

index - location to set in the list

value - the new value to assign to the element at index

Exceptions:

IndexOutOfBoundsException if index > **size()** (p. 1887).

6.466.3.21 std::string activemq::util::PrimitiveList::toString () const

Converts the contents into a formatted string that can be output in a Log File or other debugging tool.

Returns:

formatted String of all elements in the list.

The documentation for this class was generated from the following file:

- src/main/activemq/util/**PrimitiveList.h**

6.467 activemq::util::PrimitiveMap Class Reference

Map of named primitives.

`#include <src/main/activemq/util/PrimitiveMap.h>`Inheritance diagram for activemq::util::PrimitiveMap:

Public Member Functions

- **PrimitiveMap** ()

  Default Constructor, creates an empty map.

- virtual ~**PrimitiveMap** ()
- **PrimitiveMap** (const **decaf::util::Map**< std::string, **PrimitiveValueNode** > &source)

  Copy Constructor.

- **PrimitiveMap** (const **PrimitiveMap** &source)

  Copy Constructor.

- std::string **toString** () const

  Converts the contents into a formatted string that can be output in a Log File or other debugging tool.

- virtual **PrimitiveValueNode::PrimitiveType getValueType** (const std::string &key) const
- virtual bool **getBool** (const std::string &key) const

  Gets the Boolean value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setBool** (const std::string &key, bool value)

  Sets the value at key to the specified type.

- virtual unsigned char **getByte** (const std::string &key) const

  Gets the Byte value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setByte** (const std::string &key, unsigned char value)

  Sets the value at key to the specified type.

- virtual char **getChar** (const std::string &key) const

  Gets the Character value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setChar** (const std::string &key, char value)

  Sets the value at key to the specified type.

- virtual short **getShort** (const std::string &key) const

Gets the Short value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setShort** (const std::string &key, short value)

  Sets the value at key to the specified type.

- virtual int **getInt** (const std::string &key) const

  Gets the Integer value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setInt** (const std::string &key, int value)

  Sets the value at key to the specified type.

- virtual long long **getLong** (const std::string &key) const

  Gets the Long value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setLong** (const std::string &key, long long value)

  Sets the value at key to the specified type.

- virtual float **getFloat** (const std::string &key) const

  Gets the Float value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setFloat** (const std::string &key, float value)

  Sets the value at key to the specified type.

- virtual double **getDouble** (const std::string &key) const

  Gets the Double value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setDouble** (const std::string &key, double value)

  Sets the value at key to the specified type.

- virtual std::string **getString** (const std::string &key) const

  Gets the String value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setString** (const std::string &key, const std::string &value)

  Sets the value at key to the specified type.

- virtual std::vector< unsigned char > **getByteArray** (const std::string &key) const

  Gets the Byte Array value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

- virtual void **setByteArray** (const std::string &key, const std::vector< unsigned char > &value)

  Sets the value at key to the specified type.

6.467.1 Detailed Description

Map of named primitives.

6.467.2 Constructor & Destructor Documentation

6.467.2.1 activemq::util::PrimitiveMap::PrimitiveMap ()

Default Constructor, creates an empty map.

6.467.2.2 virtual activemq::util::PrimitiveMap::~PrimitiveMap () [virtual]

6.467.2.3 activemq::util::PrimitiveMap::PrimitiveMap (const decaf::util::Map< std::string, PrimitiveValueNode > & *source*)

Copy Constructor.

Parameters:

source The Decaf Library Map instance whose elements will be copied into this Map.

6.467.2.4 activemq::util::PrimitiveMap::PrimitiveMap (const PrimitiveMap & *source*)

Copy Constructor.

Parameters:

source The **PrimitiveMap** (p. 2396) whose elements will be copied into this Map.

6.467.3 Member Function Documentation

6.467.3.1 virtual bool activemq::util::PrimitiveMap::getBool (const std::string & *key*) const [virtual]

Gets the Boolean value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.2 virtual unsigned char activemq::util::PrimitiveMap::getByte (const std::string & *key*) const [virtual]

Gets the Byte value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.3 virtual std::vector<unsigned char> activemq::util::PrimitiveMap::getByteArray (const std::string & *key*) const [virtual]

Gets the Byte Array value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.4 virtual char activemq::util::PrimitiveMap::getChar (const std::string & *key*) const [virtual]

Gets the Character value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.5 virtual double activemq::util::PrimitiveMap::getDouble (const std::string & *key*) const [virtual]

Gets the Double value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.6 virtual float activemq::util::PrimitiveMap::getFloat (const std::string & *key*) const [virtual]

Gets the Float value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.7 virtual int activemq::util::PrimitiveMap::getInt (const std::string & *key*) const [virtual]

Gets the Integer value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.8 virtual long long activemq::util::PrimitiveMap::getLong (const std::string & *key*) const [virtual]

Gets the Long value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.9 virtual short activemq::util::PrimitiveMap::getShort (const std::string & *key*) const [virtual]

Gets the Short value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.10 virtual std::string activemq::util::PrimitiveMap::getString (const std::string & *key*) const [virtual]

Gets the String value at the given key, if the key is not in the map or cannot be returned as the requested value then an exception of type NoSuchElementException is thrown.

Parameters:

key - the location to return the value from.

Returns:

the value at key in the type requested.

Exceptions:

NoSuchElementException if key is not in the map.

UnSupportedOperationException if the value cannot be converted to the type this method returns

6.467.3.11 virtual PrimitiveValueNode::PrimitiveType activemq::util::PrimitiveMap::getValueType (const std::string & *key*) const [virtual]

Returns:

the numeric type value for the given key if it exists.

Exceptions:

NoSuchElementException if the key is not present in the map.

6.467.3.12 virtual void activemq::util::PrimitiveMap::setBool (const std::string & *key*, bool *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.13 virtual void activemq::util::PrimitiveMap::setByte (const std::string & *key*, unsigned char *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.14 virtual void activemq::util::PrimitiveMap::setByteArray (const std::string & *key*, const std::vector< unsigned char > & *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.15 virtual void activemq::util::PrimitiveMap::setChar (const std::string & *key*, char *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.16 virtual void activemq::util::PrimitiveMap::setDouble (const std::string & *key*, double *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.17 virtual void activemq::util::PrimitiveMap::setFloat (const std::string & *key*, float *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.18 virtual void activemq::util::PrimitiveMap::setInt (const std::string & *key*, int *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.19 virtual void activemq::util::PrimitiveMap::setLong (const std::string & *key*, long long *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.20 virtual void activemq::util::PrimitiveMap::setShort (const std::string & *key*, short *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.21 virtual void activemq::util::PrimitiveMap::setString (const std::string & *key*, const std::string & *value*) [virtual]

Sets the value at key to the specified type. Overwrites any data that was previously at this key or inserts a new element at key.

Parameters:

key - the map key to set or insert.

value - the new value to set at the key location.

6.467.3.22 std::string activemq::util::PrimitiveMap::toString () const

Converts the contents into a formatted string that can be output in a Log File or other debugging tool.

Returns:

formatted String of all elements in the map.

The documentation for this class was generated from the following file:

- src/main/activemq/util/**PrimitiveMap.h**

6.468 activemq::wireformat::openwire::marshal::PrimitiveTypesMarshall Class Reference

This class wraps the functionality needed to **marshal** (p. 83) a primitive map to the Openwire Format's expectation of what the map looks like on the wire.

`#include <src/main/activemq/wireformat/openwire/marshal/PrimitiveTypesMarshaller.h>`

Public Member Functions

- **PrimitiveTypesMarshaller** ()
- virtual ~**PrimitiveTypesMarshaller** ()

Static Public Member Functions

- static void **marshal** (const **util::PrimitiveMap** *map, std::vector< unsigned char > &buffer)

  Marshal a primitive map object to the given byte buffer.

- static void **unmarshal** (**util::PrimitiveMap** *map, const std::vector< unsigned char > &buffer)

  Unmarshal a PrimitiveMap from the provided Byte buffer.

- static void **marshal** (const **util::PrimitiveList** *list, std::vector< unsigned char > &buffer)

  Marshal a primitive list object to the given byte buffer.

- static void **unmarshal** (**util::PrimitiveList** *list, const std::vector< unsigned char > &buffer)

  Unmarshal a PrimitiveList from the provided byte buffer.

- static void **marshalMap** (const **util::PrimitiveMap** *map, **decaf::io::DataOutputStream** &dataOut)

  Marshal a primitive map object to the given DataOutputStream.

- static **util::PrimitiveMap** * **unmarshalMap** (**decaf::io::DataInputStream** &dataIn)

  Unmarshal a PrimitiveMap from the provided DataInputStream.

- static void **marshalList** (const **util::PrimitiveList** *list, **decaf::io::DataOutputStream** &dataOut)

  Marshal a PrimitiveList to the given DataOutputStream.

- static **util::PrimitiveList** * **unmarshalList** (**decaf::io::DataInputStream** &dataIn)

  Unmarshal a PrimitiveList from the given DataInputStream.

Static Protected Member Functions

- static void **marshalPrimitiveMap** (**decaf::io::DataOutputStream** &dataOut, const **decaf::util::Map**< std::string, **util::PrimitiveValueNode** > &map)

Marshal a Map of Primitives to the given OutputStream, can result in recursive calls to this method if the map contains maps of maps.

- static void **marshalPrimitiveList** (**decaf::io::DataOutputStream** &dataOut, const **decaf::util::List< util::PrimitiveValueNode >** &list)

  Marshal a List of Primitives to the given OutputStream, can result in recursive calls to this method if the list contains lists of lists.

- static void **marshalPrimitive** (**decaf::io::DataOutputStream** &dataOut, const **util::PrimitiveValueNode** &value)

  Used to Marshal the Primitive types out on the Wire.

- static void **unmarshalPrimitiveMap** (**decaf::io::DataInputStream** &dataIn, **util::PrimitiveMap** &map)

  Unmarshals a Map of Primitives from the given InputStream, can result in recursive calls to this method if the map contains maps of maps.

- static void **unmarshalPrimitiveList** (**decaf::io::DataInputStream** &dataIn, **decaf::util::LinkedList< util::PrimitiveValueNode >** &list)

  Unmarshals a List of Primitives from the given InputStream, can result in recursive calls to this method if the list contains lists of lists.

- static **util::PrimitiveValueNode unmarshalPrimitive** (**decaf::io::DataInputStream** &dataIn)

  Unmarshals a Primitive Type from the stream, and returns it as a value Node.

6.468.1 Detailed Description

This class wraps the functionality needed to **marshal** (p. 83) a primitive map to the Openwire Format's expectation of what the map looks like on the wire.

6.468.2 Constructor & Destructor Documentation

6.468.2.1 activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::PrimitiveTypesMars () [inline]

6.468.2.2 virtual activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::~PrimitiveTypesMa () [inline, virtual]

6.468.3 Member Function Documentation

6.468.3.1 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::marshal (const util::PrimitiveList * *list*, std::vector< unsigned char > & *buffer*) [static]

Marshal a primitive list object to the given byte buffer.

Parameters:

map The PrimitiveList to Marshal.

buffer The byte buffer to write the marshaled data to.

Exceptions:

Exception if an error occurs during the marshaling process.

6.468.3.2 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::marshal (const util::PrimitiveMap * *map*, std::vector< unsigned char > & *buffer*) [static]

Marshal a primitive map object to the given byte buffer.

Parameters:

map Map to Marshal.

buffer The byte buffer to write the marshaled data to.

Exceptions:

Exception if an error occurs during the marshaling process.

6.468.3.3 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::marshalList (const util::PrimitiveList * *list*, decaf::io::DataOutputStream & *dataOut*) [static]

Marshal a PrimitiveList to the given DataOutputStream.

Parameters:

list The list object to Marshal

dataOut Reference to a DataOutputStream to write the marshaled data to.

Exceptions:

Exception if an error occurs during the marshaling process.

6.468.3.4 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::marshalMap (const util::PrimitiveMap * *map*, decaf::io::DataOutputStream & *dataOut*) [static]

Marshal a primitive map object to the given DataOutputStream.

Parameters:

map Map to Marshal.

dataOut Reference to a DataOutputStream to write the marshaled data to.

Exceptions:

Exception if an error occurs during the marshaling process.

6.468.3.5 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::marshalPrimitive (decaf::io::DataOutputStream & *dataOut*, const util::PrimitiveValueNode & *value*) [static, protected]

Used to Marshal the Primitive types out on the Wire.

Parameters:

dataOut - the DataOutputStream to write to

value - the ValueNode to write.

Exceptions:

IOException if an I/O error occurs during this operation.

6.468.3.6 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::marshalPrimitiveList (decaf::io::DataOutputStream & *dataOut*, const decaf::util::List< util::PrimitiveValueNode > & *list*) [static, protected]

Marshal a List of Primitives to the given OutputStream, can result in recursive calls to this method if the list contains lists of lists.

Parameters:

dataOut - the DataOutputStream to write to

list - the ValueNode to write.

Exceptions:

IOException if an I/O error occurs during this operation.

6.468.3.7 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::marshalPrimitiveMap (decaf::io::DataOutputStream & *dataOut*, const decaf::util::Map< std::string, util::PrimitiveValueNode > & *map*) [static, protected]

Marshal a Map of Primitives to the given OutputStream, can result in recursive calls to this method if the map contains maps of maps.

Parameters:

dataOut - the DataOutputStream to write to

map - the ValueNode to write.

Exceptions:

IOException if an I/O error occurs during this operation.

6.468.3.8 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::unmarshal (util::PrimitiveList * *list*, const std::vector< unsigned char > & *buffer*) [static]

Unmarshal a PrimitiveList from the provided byte buffer.

Parameters:

map The List to populate with values from the marshaled data.

buffer The byte buffer containing the marshaled Map.

Exceptions:

Exception if an error occurs during the unmarshal process.

6.468.3.9 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::unmarshal (util::PrimitiveMap * *map*, const std::vector< unsigned char > & *buffer*) [static]

Unmarshal a PrimitiveMap from the provided Byte buffer.

Parameters:

map The Map to populate with values from the marshaled data.

buffer The byte buffer containing the marshaled Map.

Exceptions:

Exception if an error occurs during the unmarshal process.

6.468.3.10 static util::PrimitiveList* activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::unmarshalList (decaf::io::DataInputStream & *dataIn*) [static]

Unmarshal a PrimitiveList from the given DataInputStream.

Parameters:

dataIn The DataInputStream instance to read the marshaled PrimitiveList from.

Returns:

a pointer to a newly allocated PrimitiveList instnace.

Exceptions:

Exception if an error occurs during the unmarshal process.

6.468.3.11 static util::PrimitiveMap* activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::unmarshalMap (decaf::io::DataInputStream & *dataIn*) [static]

Unmarshal a PrimitiveMap from the provided DataInputStream.

Parameters:

dataIn The DataInputStream instance to read the marshaled PrimitiveMap from.

Returns:

a pointer to a newly allocated PrimitiveMap instnace.

Exceptions:

Exception if an error occurs during the unmarshal process.

6.468.3.12 static util::PrimitiveValueNode activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::unmarshalPrimitive (decaf::io::DataInputStream & *dataIn*) [static, protected]

Unmarshals a Primitive Type from the stream, and returns it as a value Node.

Parameters:

dataIn - DataInputStream to read from.

Returns:

a PrimitiveValueNode containing the data.

Exceptions:

IOException if an I/O error occurs during this operation.

6.468.3.13 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::unmarshalPrimitiveLi (decaf::io::DataInputStream & *dataIn*, decaf::util::LinkedList< util::PrimitiveValueNode > & *list*) [static, protected]

Unmarshals a List of Primitives from the given InputStream, can result in recursive calls to this method if the list contains lists of lists.

Parameters:

dataIn - DataInputStream to read from.

list - the ValueNode to write.

Exceptions:

IOException if an I/O error occurs during this operation.

6.468.3.14 static void activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller::unmarshalPrimitiveM (decaf::io::DataInputStream & *dataIn*, util::PrimitiveMap & *map*) [static, protected]

Unmarshals a Map of Primitives from the given InputStream, can result in recursive calls to this method if the map contains maps of maps.

Parameters:

dataIn - DataInputStream to read from.

map - the map to fill with data.

Exceptions:

IOException if an I/O error occurs during this operation.

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/**PrimitiveTypesMarshaller.h**

6.469 activemq::util::PrimitiveValueNode::PrimitiveValue Union Reference

Define a union type comprised of the various types.

`#include <src/main/activemq/util/PrimitiveValueNode.h>`

Data Fields

- bool **boolValue**
- unsigned char **byteValue**
- char **charValue**
- short **shortValue**
- int **intValue**
- long long **longValue**
- double **doubleValue**
- float **floatValue**
- std::string * **stringValue**
- std::vector< unsigned char > * **byteArrayValue**
- **decaf::util::List**< **PrimitiveValueNode** > * **listValue**
- **decaf::util::Map**< std::string, **PrimitiveValueNode** > * **mapValue**

6.469.1 Detailed Description

Define a union type comprised of the various types.

6.469.2 Field Documentation

6.469.2.1 bool activemq::util::PrimitiveValueNode::PrimitiveValue::boolValue

6.469.2.2 std::vector<unsigned char>* activemq::util::PrimitiveValueNode::PrimitiveValue::byteArrayValue

6.469.2.3 unsigned char activemq::util::PrimitiveValueNode::PrimitiveValue::byteValue

6.469.2.4 char activemq::util::PrimitiveValueNode::PrimitiveValue::charValue

6.469.2.5 double activemq::util::PrimitiveValueNode::PrimitiveValue::doubleValue

6.469.2.6 float activemq::util::PrimitiveValueNode::PrimitiveValue::floatValue

6.469.2.7 int activemq::util::PrimitiveValueNode::PrimitiveValue::intValue

6.469.2.8 decaf::util::List<PrimitiveValueNode>* activemq::util::PrimitiveValueNode::PrimitiveValue::listValue

6.469.2.9 long long activemq::util::PrimitiveValueNode::PrimitiveValue::longValue

6.469.2.10 decaf::util::Map<std::string, PrimitiveValueNode>* activemq::util::PrimitiveValueNode::PrimitiveValue::mapValue

6.469.2.11 short activemq::util::PrimitiveValueNode::PrimitiveValue::shortValue

6.469.2.12 std::string* activemq::util::PrimitiveValueNode::PrimitiveValue::stringValue

The documentation for this union was generated from the following file:

- src/main/activemq/util/**PrimitiveValueNode.h**

6.470 activemq::util::PrimitiveValueConverter Class Reference

Class controls the conversion of data contained in a **PrimitiveValueNode** (p. 2415) from one type to another.

`#include <src/main/activemq/util/PrimitiveValueConverter.h>`

Public Member Functions

- **PrimitiveValueConverter** ()
- virtual ~**PrimitiveValueConverter** ()
- template<typename TO >
  TO **convert** (const **PrimitiveValueNode** &value) const

6.470.1 Detailed Description

Class controls the conversion of data contained in a **PrimitiveValueNode** (p. 2415) from one type to another. If the conversion is supported then calling the convert method will throw an UnsupportedOperationException to indicate that its not possible to perform the conversion.

This class is used to implement the rules of conversion on CMS Message properties, the following conversion table must be implemented. A value written as the row type can be read in the column type.

| | boolean byte short int long float double String |----------|-------|-------|-------|-------|-------|-------|-------- |boolean | X X |byte | X X X X X |short | X X X X |int | X X X |long | X X |float | X X X |double | X X |String | X X X X X X X X |----------

Since:

3.0

6.470.2 Constructor & Destructor Documentation

6.470.2.1 activemq::util::PrimitiveValueConverter::PrimitiveValueConverter () [inline]

6.470.2.2 virtual activemq::util::PrimitiveValueConverter::~PrimitiveValueConverter () [inline, virtual]

6.470.3 Member Function Documentation

6.470.3.1 double activemq::util::PrimitiveValueConverter::convert< double > (const PrimitiveValueNode & *value*) const [inline]

The documentation for this class was generated from the following file:

- src/main/activemq/util/**PrimitiveValueConverter.h**

6.471 activemq::util::PrimitiveValueNode Class Reference

Class that wraps around a single value of one of the many types.

`#include <src/main/activemq/util/PrimitiveValueNode.h>`

Data Structures

- union **PrimitiveValue**

  Define a union type comprised of the various types.

Public Types

- enum **PrimitiveType** {

  NULL_TYPE = 0, **BOOLEAN_TYPE** = 1, **BYTE_TYPE** = 2, **CHAR_TYPE** = 3,

  SHORT_TYPE = 4, **INTEGER_TYPE** = 5, **LONG_TYPE** = 6, **DOUBLE_TYPE** = 7,

  FLOAT_TYPE = 8, **STRING_TYPE** = 9, **BYTE_ARRAY_TYPE** = 10, **MAP_TYPE** = 11,

  LIST_TYPE = 12, **BIG_STRING_TYPE** = 13 }

  Enumeration for the various primitive types.

Public Member Functions

- **PrimitiveValueNode** ()

  Default Constructor, creates a value of the NULL_ TYPE.

- **PrimitiveValueNode** (bool value)

  Boolean Value Constructor.

- **PrimitiveValueNode** (unsigned char value)

  Byte Value Constructor.

- **PrimitiveValueNode** (char value)

  Char Value Constructor.

- **PrimitiveValueNode** (short value)

  Short Value Constructor.

- **PrimitiveValueNode** (int value)

  Int Value Constructor.

- **PrimitiveValueNode** (long long value)

  Long Value Constructor.

- **PrimitiveValueNode** (float value)

Float Value Constructor.

- **PrimitiveValueNode** (double value)

  Double Value Constructor.

- **PrimitiveValueNode** (const char *value)

  String Value Constructor.

- **PrimitiveValueNode** (const std::string &value)

  String Value Constructor.

- **PrimitiveValueNode** (const std::vector< unsigned char > &value)

  Byte Array Value Constructor.

- **PrimitiveValueNode** (const **decaf::util::List**< **PrimitiveValueNode** > &value)

  Primtive List Constructor.

- **PrimitiveValueNode** (const **decaf::util::Map**< std::string, **PrimitiveValueNode** > &value)

  Primtive Map Value Constructor.

- **PrimitiveValueNode** (const **PrimitiveValueNode** &node)

  Copy constructor.

- ~**PrimitiveValueNode** ()
- **PrimitiveValueNode** & **operator**= (const **PrimitiveValueNode** &node)

  Assignment operator, copies the data from the other node.

- bool **operator**== (const **PrimitiveValueNode** &node) const

  Comparison Operator, compares this node to the other node.

- **PrimitiveType getType** () const

  Gets the Value Type of this type wrapper.

- **PrimitiveValue getValue** () const

  Gets the internal Primitive Value object from this wrapper.

- void **setValue** (const **PrimitiveValue** &value, **PrimitiveType** valueType)

  Sets the internal PrimitiveVale object to the new value along with the tag for the type that it consists of.

- void **clear** ()

  Clears the value from this wrapper converting it back to a blank NULL_ TYPE value.

- void **setBool** (bool value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- bool **getBool** () const

  Gets the Boolean value of this Node.

- void **setByte** (unsigned char value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- unsigned char **getByte** () const

  Gets the Byte value of this Node.

- void **setChar** (char value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- char **getChar** () const

  Gets the Character value of this Node.

- void **setShort** (short value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- short **getShort** () const

  Gets the Short value of this Node.

- void **setInt** (int value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- int **getInt** () const

  Gets the Integer value of this Node.

- void **setLong** (long long value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- long long **getLong** () const

  Gets the Long value of this Node.

- void **setFloat** (float value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- float **getFloat** () const

  Gets the Float value of this Node.

- void **setDouble** (double value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- double **getDouble** () const

  Gets the Double value of this Node.

- void **setString** (const std::string &value)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- std::string **getString** () const

  Gets the String value of this Node.

- void **setByteArray** (const std::vector< unsigned char > &value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- std::vector< unsigned char > **getByteArray** () const

  Gets the Byte Array value of this Node.

- void **setList** (const **decaf::util::List**< **PrimitiveValueNode** > &value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- const **decaf::util::List**< **PrimitiveValueNode** > & **getList** () const

  Gets the Primitive List value of this Node.

- void **setMap** (const **decaf::util::Map**< std::string, **PrimitiveValueNode** > &value)

  Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

- const **decaf::util::Map**< std::string, **PrimitiveValueNode** > & **getMap** () const

  Gets the Primitive Map value of this Node.

- std::string **toString** () const

  Creates a string representation of this value.

6.471.1 Detailed Description

Class that wraps around a single value of one of the many types. Manages memory for complex types, such as strings. Note: the destructor was left non-virtual so no virtual table will be created. This probably isn't necessary, but will avoid needless memory allocation. Since we'll never extend this class, not having a virtual destructor isn't a concern.

6.471.2 Member Enumeration Documentation

6.471.2.1 enum activemq::util::PrimitiveValueNode::PrimitiveType

Enumeration for the various primitive types.

Enumerator:

NULL_TYPE

BOOLEAN_TYPE

BYTE_TYPE

CHAR_TYPE

SHORT_TYPE
INTEGER_TYPE
LONG_TYPE
DOUBLE_TYPE
FLOAT_TYPE
STRING_TYPE
BYTE_ARRAY_TYPE
MAP_TYPE
LIST_TYPE
BIG_STRING_TYPE

6.471.3 Constructor & Destructor Documentation

6.471.3.1 activemq::util::PrimitiveValueNode::PrimitiveValueNode ()

Default Constructor, creates a value of the NULL_TYPE.

6.471.3.2 activemq::util::PrimitiveValueNode::PrimitiveValueNode (bool *value*)

Boolean Value Constructor.

Parameters:

value - the new value to store.

6.471.3.3 activemq::util::PrimitiveValueNode::PrimitiveValueNode (unsigned char *value*)

Byte Value Constructor.

Parameters:

value - the new value to store.

6.471.3.4 activemq::util::PrimitiveValueNode::PrimitiveValueNode (char *value*)

Char Value Constructor.

Parameters:

value - the new value to store.

6.471.3.5 activemq::util::PrimitiveValueNode::PrimitiveValueNode (short *value*)

Short Value Constructor.

Parameters:

value - the new value to store.

6.471.3.6 activemq::util::PrimitiveValueNode::PrimitiveValueNode (int *value*)

Int Value Constructor.

Parameters:

value - the new value to store.

6.471.3.7 activemq::util::PrimitiveValueNode::PrimitiveValueNode (long long *value*)

Long Value Constructor.

Parameters:

value - the new value to store.

6.471.3.8 activemq::util::PrimitiveValueNode::PrimitiveValueNode (float *value*)

Float Value Constructor.

Parameters:

value - the new value to store.

6.471.3.9 activemq::util::PrimitiveValueNode::PrimitiveValueNode (double *value*)

Double Value Constructor.

Parameters:

value - the new value to store.

6.471.3.10 activemq::util::PrimitiveValueNode::PrimitiveValueNode (const char * *value*)

String Value Constructor.

Parameters:

value - the new value to store.

6.471.3.11 activemq::util::PrimitiveValueNode::PrimitiveValueNode (const std::string & *value*)

String Value Constructor.

Parameters:

value - the new value to store.

6.471.3.12 activemq::util::PrimitiveValueNode::PrimitiveValueNode (const std::vector< unsigned char > & *value*)

Byte Array Value Constructor.

Parameters:

value - the new value to store.

6.471.3.13 activemq::util::PrimitiveValueNode::PrimitiveValueNode (const decaf::util::List< PrimitiveValueNode > & *value*)

Primtive List Constructor.

Parameters:

value - the new value to store.

6.471.3.14 activemq::util::PrimitiveValueNode::PrimitiveValueNode (const decaf::util::Map< std::string, PrimitiveValueNode > & *value*)

Primtive Map Value Constructor.

Parameters:

value - the new value to store.

6.471.3.15 activemq::util::PrimitiveValueNode::PrimitiveValueNode (const PrimitiveValueNode & *node*)

Copy constructor.

Parameters:

node The instance of another node to copy to this one.

6.471.3.16 activemq::util::PrimitiveValueNode::~PrimitiveValueNode () [inline]

6.471.4 Member Function Documentation

6.471.4.1 void activemq::util::PrimitiveValueNode::clear ()

Clears the value from this wrapper converting it back to a blank NULL_TYPE value.

6.471.4.2 bool activemq::util::PrimitiveValueNode::getBool () const

Gets the Boolean value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.3 unsigned char activemq::util::PrimitiveValueNode::getByte () const

Gets the Byte value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.4 std::vector<unsigned char> activemq::util::PrimitiveValueNode::getByteArray () const

Gets the Byte Array value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.5 char activemq::util::PrimitiveValueNode::getChar () const

Gets the Character value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.6 double activemq::util::PrimitiveValueNode::getDouble () const

Gets the Double value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.7 float activemq::util::PrimitiveValueNode::getFloat () const

Gets the Float value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.8 int activemq::util::PrimitiveValueNode::getInt () const

Gets the Integer value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.9 const decaf::util::List<PrimitiveValueNode>& activemq::util::PrimitiveValueNode::getList () const

Gets the Primitive List value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.10 long long activemq::util::PrimitiveValueNode::getLong () const

Gets the Long value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.11 const decaf::util::Map<std::string, PrimitiveValueNode>& activemq::util::PrimitiveValueNode::getMap () const

Gets the Primitive Map value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.12 short activemq::util::PrimitiveValueNode::getShort () const

Gets the Short value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.13 std::string activemq::util::PrimitiveValueNode::getString () const

Gets the String value of this Node.

Returns:

value contained at the given index

Exceptions:

NoSuchElementException this node cannot be returned as the requested type.

6.471.4.14 PrimitiveType activemq::util::PrimitiveValueNode::getType () const [inline]

Gets the Value Type of this type wrapper.

Returns:

the PrimitiveType value for this wrapper.

6.471.4.15 PrimitiveValue activemq::util::PrimitiveValueNode::getValue () const [inline]

Gets the internal Primitive Value object from this wrapper.

Returns:

a copy of the contained **PrimitiveValue** (p. 2412)

6.471.4.16 PrimitiveValueNode& activemq::util::PrimitiveValueNode::operator= (const PrimitiveValueNode & *node*)

Assignment operator, copies the data from the other node.

Parameters:

node The instance of another node to copy to this one.

6.471.4.17 bool activemq::util::PrimitiveValueNode::operator== (const PrimitiveValueNode & *node*) const

Comparison Operator, compares this node to the other node.

Returns:

true if the values are the same false otherwise.

6.471.4.18 void activemq::util::PrimitiveValueNode::setBool (bool *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.19 void activemq::util::PrimitiveValueNode::setByte (unsigned char *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.20 void activemq::util::PrimitiveValueNode::setByteArray (const std::vector< unsigned char > & *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.21 void activemq::util::PrimitiveValueNode::setChar (char *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.22 void activemq::util::PrimitiveValueNode::setDouble (double *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.23 void activemq::util::PrimitiveValueNode::setFloat (float *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.24 void activemq::util::PrimitiveValueNode::setInt (int *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.25 void activemq::util::PrimitiveValueNode::setList (const decaf::util::List< PrimitiveValueNode > & *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.26 void activemq::util::PrimitiveValueNode::setLong (long long *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.27 void activemq::util::PrimitiveValueNode::setMap (const decaf::util::Map< std::string, PrimitiveValueNode > & *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.28 void activemq::util::PrimitiveValueNode::setShort (short *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.29 void activemq::util::PrimitiveValueNode::setString (const std::string & *value*)

Sets the value of this value node to the new value specified, this method overwrites any data that was previously at the index given.

Parameters:

value - the new value to assign to the element at index

6.471.4.30 void activemq::util::PrimitiveValueNode::setValue (const PrimitiveValue & *value*, PrimitiveType *valueType*)

Sets the internal PrimitiveVale object to the new value along with the tag for the type that it consists of.

Parameters:

value The value to set as the value contained in this Node.

valueType The type of the value being set into this one.

6.471.4.31 std::string activemq::util::PrimitiveValueNode::toString () const

Creates a string representation of this value.

Returns:

string value of this type wrapper.

The documentation for this class was generated from the following file:

- src/main/activemq/util/**PrimitiveValueNode.h**

6.472 decaf::security::Principal Class Reference

Base interface for a principal, which can represent an individual or organization.

`#include <src/main/decaf/security/Principal.h>`Inheritance diagram for decaf::security::Principal:

Public Member Functions

- virtual ~**Principal** ()
- virtual bool **equals** (const **Principal** &another) const =0

  Compares two principals to see if they are the same.

- virtual std::string **getName** () const =0

  Provides the name of this principal.

6.472.1 Detailed Description

Base interface for a principal, which can represent an individual or organization.

6.472.2 Constructor & Destructor Documentation

6.472.2.1 virtual decaf::security::Principal::~Principal () [virtual]

6.472.3 Member Function Documentation

6.472.3.1 virtual bool decaf::security::Principal::equals (const Principal & *another*) const [pure virtual]

Compares two principals to see if they are the same.

Parameters:

another A principal to be tested for equality to this one.

Returns:

true if the given principal is equivalent to this one.

6.472.3.2 virtual std::string decaf::security::Principal::getName () const [pure virtual]

Provides the name of this principal.

Returns:

the name of this principal.

Implemented in **decaf::security::auth::x500::X500Principal** (p. 3241).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**Principal.h**

6.473 decaf::util::PriorityQueue< E > Class Template Reference

An unbounded priority queue based on a binary heap algorithm.

`#include <src/main/decaf/util/PriorityQueue.h>`Inheritance diagram for decaf::util::PriorityQueue< E >:

Data Structures

- class **ConstPriorityQueueIterator**
- class **PriorityQueueIterator**

Public Member Functions

- **PriorityQueue** ()

  *Creates a Priority **Queue** (p. 2500) with the default initial capacity.*

- **PriorityQueue** (int initialCapacity)

  *Creates a Priority **Queue** (p. 2500) with the capacity value supplied.*

- **PriorityQueue** (int initialCapacity, **Comparator**< E > *comparator)

  *Creates a Priority **Queue** (p. 2500) with the default initial capacity.*

- **PriorityQueue** (const **Collection**< E > &source)

  *Creates a **PriorityQueue** (p. 2430) containing the elements in the specified **Collection** (p. 1000).*

- **PriorityQueue** (const **PriorityQueue**< E > &source)

  *Creates a **PriorityQueue** (p. 2430) containing the elements in the specified priority queue.*

- virtual ~**PriorityQueue** ()
- **PriorityQueue**< E > & **operator**= (const **Collection**< E > &source)

  *Assignment operator, assign another **Collection** (p. 1000) to this one.*

- **PriorityQueue**< E > & **operator**= (const **PriorityQueue**< E > &source)

  *Assignment operator, assign another **PriorityQueue** (p. 2430) to this one.*

- virtual **decaf::util::Iterator**< E > * **iterator** ()
- virtual **decaf::util::Iterator**< E > * **iterator** () const
- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).
  The collection will be empty after this method returns.
  *This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.*

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException *if the clear operation is not supported by this collection*

This implementation repeatedly invokes poll until it returns false.

- virtual bool **offer** (const E &value)

  Inserts the specified element into the queue provided that the condition allows such an operation.

- virtual bool **poll** (E &result)

  Gets and removes the element in the head of the queue.

- virtual bool **peek** (E &result) const

  Gets but not removes the element in the head of the queue.

- virtual E **remove** ()

  Gets and removes the element in the head of the queue.
  Throws a ***NoSuchElementException*** *(p. 2247) if there is no element in the queue.*

  Returns:

  the element in the head of the queue.

  Exceptions:

  NoSuchElementException *(p. 2247) if there is no element in the queue.*

  This implementation returns the result of poll unless the queue is empty.

- virtual bool **remove** (const E &value)

  Removes a single instance of the specified element from the collection.
  More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

  Parameters:

  value *The reference to the element to remove from this* ***Collection*** *(p. 1000).*

  Returns:

  true if the collection was changed, false otherwise.

  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*

  This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.
  Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

- virtual bool **add** (const E &value)

  Returns true if this collection changed as a result of the call.
  (Returns false if this collection does not permit duplicates and already contains the specified element.)
  Collections *(p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added.* ***Collection*** *(p. 1000)*

classes should clearly specify in their documentation any restrictions on what elements may be added.
If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.
For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value *The reference to the element to add to this* ***Collection*** *(p. 1000).*

Returns:

true if the element was added to this ***Collection*** *(p. 1000).*

Exceptions:

UnsupportedOperationExceptio *if this is an unmodifiable collection.*
NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
IllegalArgumentException *if some property of the element prevents it from being added to this collection.*
IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

This implementation returns true if offer succeeds, else throws an IllegalStateException.

- **decaf::lang::Pointer< Comparator< E > > comparator** () const

  obtains a Copy of the Pointer instance that this ***PriorityQueue*** *(p. 2430) is using to compare the elements in the queue with.*

Friends

- class **PriorityQueueIterator**

6.473.1 Detailed Description

template<typename E> class decaf::util::PriorityQueue< E >

An unbounded priority queue based on a binary heap algorithm. The elements of the priority queue are ordered according to their natural ordering, or by a **Comparator** (p. 1034) provided to one of the constructors that accepts Comparators. A priority queue relying on natural ordering also does not permit insertion of non-comparable objects (doing so may result in a compiler error).

The head of this queue is the least element with respect to the specified ordering. If multiple elements are tied for least value, the head is one of those elements -- ties are broken arbitrarily. The queue retrieval operations poll, remove, peek, and element access the element at the head of the queue.

A priority queue is unbounded, but has an **internal** (p. 96) capacity governing the size of an array used to store the elements on the queue. It is always at least as large as the queue size. As elements are added to a priority queue, its capacity grows automatically. The details of the growth policy are not specified.

This class and its iterator implement all of the optional methods of the **Collection** (p. 1000) and **Iterator** (p. 1789) interfaces. The **Iterator** (p. 1789) provided in method **iterator()** (p. 2436) is not guaranteed to traverse the elements of the priority queue in any particular order. If you need ordered traversal, consider using `Arrays::sort( pq.toArray() )`.

Note that this implementation is not synchronized. Multiple threads should not access a **PriorityQueue** (p. 2430) instance concurrently if any of the threads modifies the queue. Instead, use the thread-safe PriorityBlockingQueue class.

Implementation note: this implementation provides O(log(n)) time for the enqueing and dequeing methods (offer, poll, **remove()** (p. 2438) and add); linear time for the remove(Object) and contains(Object) methods; and constant time for the retrieval methods (peek, element, and size).

Since:

1.0

6.473.2 Constructor & Destructor Documentation

6.473.2.1 template<typename E> decaf::util::PriorityQueue< E >::PriorityQueue () [inline]

Creates a Priority **Queue** (p. 2500) with the default initial capacity.

References decaf::util::PriorityQueueBase::DEFAULT_CAPACITY.

6.473.2.2 template<typename E> decaf::util::PriorityQueue< E >::PriorityQueue (int *initialCapacity*) [inline]

Creates a Priority **Queue** (p. 2500) with the capacity value supplied.

Parameters:

initialCapacity The initial number of elements allocated to this **PriorityQueue** (p. 2430).

6.473.2.3 template<typename E> decaf::util::PriorityQueue< E >::PriorityQueue (int *initialCapacity*, Comparator< E > * *comparator*) [inline]

Creates a Priority **Queue** (p. 2500) with the default initial capacity. This new **PriorityQueue** (p. 2430) takes ownership of the passed **Comparator** (p. 1034) instance and uses that to determine the ordering of the elements in the **Queue** (p. 2500).

Parameters:

initialCapacity The initial number of elements allocated to this **PriorityQueue** (p. 2430).

comparator The **Comparator** (p. 1034) instance to use in sorting the elements in the **Queue** (p. 2500).

Exceptions:

NullPointerException if the passed **Comparator** (p. 1034) is NULL.

References NULL.

6.473.2.4 template<typename E> decaf::util::PriorityQueue< E >::PriorityQueue (const Collection< E > & *source*) [inline]

Creates a **PriorityQueue** (p. 2430) containing the elements in the specified **Collection** (p. 1000).

Parameters:

source the **Collection** (p. 1000) whose elements are to be placed into this priority queue

6.473.2.5 template<typename E> decaf::util::PriorityQueue< E >::PriorityQueue (const PriorityQueue< E > & *source*) [inline]

Creates a **PriorityQueue** (p. 2430) containing the elements in the specified priority queue. This priority queue will be ordered according to the same ordering as the given priority queue.

Parameters:

source the priority queue whose elements are to be placed into this priority queue

6.473.2.6 template<typename E> virtual decaf::util::PriorityQueue< E >::~PriorityQueue () [inline, virtual]

6.473.3 Member Function Documentation

6.473.3.1 template<typename E> virtual bool decaf::util::PriorityQueue< E >::add (const E & *value*) [inline, virtual]

Returns true if this collection changed as a result of the call.

(Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

This implementation returns true if offer succeeds, else throws an IllegalStateException. This implementation returns true if offer succeeds, else throws an IllegalStateException.

Reimplemented from **decaf::util::AbstractQueue< E >** (p. 176).

References DECAF_CATCH_EXCEPTION_CONVERT, DECAF_CATCH_RETHROW, DECAF_CATCHALL_THROW, and decaf::util::PriorityQueue< E >::offer().

6.473.3.2 template<typename E> virtual void decaf::util::PriorityQueue< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation).

The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

This implementation repeatedly invokes poll until it returns false. This implementation repeatedly invokes poll until it returns false.

Reimplemented from **decaf::util::AbstractQueue< E >** (p. 177).

References decaf::util::PriorityQueueBase::DEFAULT_CAPACITY.

6.473.3.3 template<typename E> decaf::lang::Pointer< Comparator<E> > decaf::util::PriorityQueue< E >::comparator () const [inline]

obtains a Copy of the Pointer instance that this **PriorityQueue** (p. 2430) is using to compare the elements in the queue with. The returned value is a copy, the caller cannot change the value if the **internal** (p. 96) Pointer value.

Returns:

a copy of the **Comparator** (p. 1034) Pointer being used by this **Queue** (p. 2500).

6.473.3.4 template<typename E> virtual decaf::util::Iterator<E>* decaf::util::PriorityQueue< E >::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< E >** (p. 1786).

6.473.3.5 template<typename E> virtual decaf::util::Iterator<E>* decaf::util::PriorityQueue< E >::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< E >** (p. 1787).

References decaf::util::PriorityQueue< E >::PriorityQueueIterator.

6.473.3.6 template<typename E> virtual bool decaf::util::PriorityQueue< E >::offer (const E & *value*) [inline, virtual]

Inserts the specified element into the queue provided that the condition allows such an operation. The method is generally preferable to the collection.add(E), since the latter might throw an exception if the operation fails.

Parameters:

value the specified element to insert into the queue.

Returns:

true if the operation succeeds and false if it fails.

Exceptions:

NullPointerException if the **Queue** (p. 2500) implementation does not allow Null values to be inserted into the **Queue** (p. 2500).

IllegalArgumentException if some property of the specified element prevents it from being added to this queue

Implements **decaf::util::Queue< E >** (p. 2501).

Referenced by decaf::util::PriorityQueue< E >::add().

6.473.3.7 template<typename E> PriorityQueue<E>& decaf::util::PriorityQueue< E >::operator= (const PriorityQueue< E > & *source*) [inline]

Assignment operator, assign another **PriorityQueue** (p. 2430) to this one.

Parameters:

source The **PriorityQueue** (p. 2430) to copy to this one.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 148).

6.473.3.8 template<typename E> PriorityQueue<E>& decaf::util::PriorityQueue< E >::operator= (const Collection< E > & *source*) [inline]

Assignment operator, assign another **Collection** (p. 1000) to this one.

Parameters:

source The **Collection** (p. 1000) to copy to this one.

6.473.3.9 template<typename E> virtual bool decaf::util::PriorityQueue< E >::peek (E & *result*) const [inline, virtual]

Gets but not removes the element in the head of the queue. The result if successful is assigned to the result parameter.

Parameters:

result Reference to an instance of the contained type to assigned the removed value to.

Returns:

true if the element at the head of the queue was removed and assigned to the result parameter.

Implements **decaf::util::Queue< E >** (p. 2502).

References decaf::util::AbstractCollection< E >::isEmpty().

6.473.3.10 template<typename E> virtual bool decaf::util::PriorityQueue< E >::poll (E & *result*) [inline, virtual]

Gets and removes the element in the head of the queue. If the operation succeeds the value of the element at the head of the **Queue** (p. 2500) is assigned to the result parameter and the method returns true. If the operation fails the method returns false and the value of the result parameter is undefined.

Parameters:

result Reference to an instance of the contained type to assigned the removed value to.

Returns:

true if the element at the head of the queue was removed and assigned to the result parameter.

Implements **decaf::util::Queue< E >** (p. 2502).

References decaf::util::AbstractCollection< E >::isEmpty().

6.473.3.11 template<typename E> virtual bool decaf::util::PriorityQueue< E >::remove (const E & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object. This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 149).

6.473.3.12 template<typename E> virtual E decaf::util::PriorityQueue< E >::remove () [inline, virtual]

Gets and removes the element in the head of the queue.

Throws a **NoSuchElementException** (p. 2247) if there is no element in the queue.

Returns:

the element in the head of the queue.

Exceptions:

NoSuchElementException *(p. 2247)* if there is no element in the queue.

This implementation returns the result of poll unless the queue is empty. This implementation returns the result of poll unless the queue is empty.

Reimplemented from **decaf::util::AbstractQueue< E >** (p. 178).

References decaf::util::AbstractCollection< E >::isEmpty().

6.473.3.13 template<typename E> virtual int decaf::util::PriorityQueue< E >::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< E >** (p. 1009).

6.473.4 Friends And Related Function Documentation

6.473.4.1 template<typename E> friend class PriorityQueueIterator [friend]

Referenced by decaf::util::PriorityQueue< E >::iterator().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**PriorityQueue.h**

6.474 decaf::util::PriorityQueueBase Class Reference

`#include <src/main/decaf/util/PriorityQueue.h>`Inheritance diagram for decaf::util::PriorityQueueBase:

Protected Member Functions

- virtual ~**PriorityQueueBase** ()

Static Protected Attributes

- static const int **DEFAULT_CAPACITY**
- static const int **DEFAULT_CAPACITY_RATIO**

6.474.1 Constructor & Destructor Documentation

6.474.1.1 virtual decaf::util::PriorityQueueBase::~PriorityQueueBase () [inline, protected, virtual]

6.474.2 Field Documentation

6.474.2.1 const int decaf::util::PriorityQueueBase::DEFAULT_CAPACITY [static, protected]

Referenced by decaf::util::PriorityQueue< E >::clear(), and decaf::util::PriorityQueue< E >::PriorityQueue().

6.474.2.2 const int decaf::util::PriorityQueueBase::DEFAULT_CAPACITY_RATIO [static, protected]

The documentation for this class was generated from the following file:

- src/main/decaf/util/**PriorityQueue.h**

6.475 activemq::commands::ProducerAck Class Reference

`#include <src/main/activemq/commands/ProducerAck.h>`Inheritance diagram for activemq::commands::ProducerAck:

Public Member Functions

- **ProducerAck** ()
- virtual ~**ProducerAck** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ProducerAck** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **ProducerId** > & **getProducerId** () const
- virtual **Pointer**< **ProducerId** > & **getProducerId** ()
- virtual void **setProducerId** (const **Pointer**< **ProducerId** > &**producerId**)
- virtual int **getSize** () const
- virtual void **setSize** (int **size**)
- virtual bool **isProducerAck** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_PRODUCERACK** = 19

Protected Attributes

- **Pointer**< **ProducerId** > **producerId**
- int **size**

6.475.1 Constructor & Destructor Documentation

6.475.1.1 activemq::commands::ProducerAck::ProducerAck ()

6.475.1.2 virtual activemq::commands::ProducerAck::~ProducerAck () [virtual]

6.475.2 Member Function Documentation

6.475.2.1 virtual ProducerAck* activemq::commands::ProducerAck::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.475.2.2 virtual void activemq::commands::ProducerAck::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.475.2.3 virtual bool activemq::commands::ProducerAck::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.475.2.4 virtual unsigned char activemq::commands::ProducerAck::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.475.2.5 virtual Pointer<ProducerId>& activemq::commands::ProducerAck::getProducerId ()

[virtual]

6.475.2.6 virtual const Pointer<ProducerId>& activemq::commands::ProducerAck::getProducerId () const

[virtual]

6.475.2.7 virtual int activemq::commands::ProducerAck::getSize () const

[virtual]

6.475.2.8 virtual bool activemq::commands::ProducerAck::isProducerAck () const

[inline, virtual]

Returns:

an answer of true to the **isProducerAck()** (p. 2443) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 633).

6.475.2.9 virtual void activemq::commands::ProducerAck::setProducerId (const Pointer< ProducerId > & *producerId*)

[virtual]

6.475.2.10 virtual void activemq::commands::ProducerAck::setSize (int *size*)

[virtual]

6.475.2.11 virtual std::string activemq::commands::ProducerAck::toString () const

[virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.475.2.12 virtual Pointer<Command> activemq::commands::ProducerAck::visit (activemq::state::CommandVisitor * *visitor*)

[virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.475.3 Field Documentation

6.475.3.1 const unsigned char activemq::commands::ProducerAck::ID_PRODUCERACK = 19 [static]

6.475.3.2 Pointer<ProducerId> activemq::commands::ProducerAck::producerId [protected]

6.475.3.3 int activemq::commands::ProducerAck::size [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ProducerAck.h**

6.476 activemq::wireformat::openwire::marshal::generated::ProducerAck Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ProducerAckMarshaller** (p. 2445).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ProducerAckMarshaller.h>`Inherit diagram for activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller:

Public Member Functions

- **ProducerAckMarshaller** ()
- virtual ~**ProducerAckMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.476.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ProducerAckMarshaller** (p. 2445). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.476.2 Constructor & Destructor Documentation

6.476.2.1 activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller::ProducerAc () [inline]

6.476.2.2 virtual activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller::~ProducerA () [inline, virtual]

6.476.3 Member Function Documentation

6.476.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.476.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller::getDataStruct () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.476.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.476.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller::looseUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.476.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.476.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.476.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller::tightUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ProducerAckMarshaller.h**

6.477 activemq::cmsutil::ProducerCallback Class Reference

Callback for sending a message to a CMS destination.

`#include <src/main/activemq/cmsutil/ProducerCallback.h>`Inheritance diagram for activemq::cmsutil::ProducerCallback:

Public Member Functions

- virtual ~**ProducerCallback** ()
- virtual void **doInCms** (**cms::Session** *session, **cms::MessageProducer** *producer)=0

  Execute an action given a session and producer.

6.477.1 Detailed Description

Callback for sending a message to a CMS destination.

6.477.2 Constructor & Destructor Documentation

6.477.2.1 virtual activemq::cmsutil::ProducerCallback::~ProducerCallback () [virtual]

6.477.3 Member Function Documentation

6.477.3.1 virtual void activemq::cmsutil::ProducerCallback::doInCms (cms::Session * *session*, cms::MessageProducer * *producer*) [pure virtual]

Execute an action given a session and producer.

Parameters:

session the CMS `Session`

producer the CMS `Producer`

Exceptions:

cms::CMSException *(*p. *973)* if thrown by CMS API methods

Implemented in **activemq::cmsutil::CmsTemplate::SendExecutor** (p. 2643).

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**ProducerCallback.h**

6.478 activemq::cmsutil::CmsTemplate::ProducerExecutor Class Reference

`#include <src/main/activemq/cmsutil/CmsTemplate.h>`Inheritance diagram for activemq::cmsutil::CmsTemplate::ProducerExecutor:

Public Member Functions

- **ProducerExecutor** (**ProducerCallback** *__action__, **CmsTemplate** *__parent__, **cms::Destination** *__destination__)
- virtual ~**ProducerExecutor** ()
- virtual void **doInCms** (**cms::Session** *session)

  Execute any number of operations against the supplied CMS session.

- virtual **cms::Destination** * **getDestination** (**cms::Session** *session AMQCPP_UNUSED)

Protected Attributes

- **ProducerCallback** * **action**
- **CmsTemplate** * **parent**
- **cms::Destination** * **destination**

6.478.1 Constructor & Destructor Documentation

6.478.1.1 activemq::cmsutil::CmsTemplate::ProducerExecutor::ProducerExecutor (ProducerCallback * *action*, CmsTemplate * *parent*, cms::Destination * *destination*) `[inline]`

6.478.1.2 virtual activemq::cmsutil::CmsTemplate::ProducerExecutor::~ProducerExecutor () `[inline, virtual]`

6.478.2 Member Function Documentation

6.478.2.1 virtual void activemq::cmsutil::CmsTemplate::ProducerExecutor::doInCms (cms::Session * *session*) `[virtual]`

Execute any number of operations against the supplied CMS session.

Parameters:

session the CMS `Session`

Exceptions:

CMSException if thrown by CMS API methods

Implements **activemq::cmsutil::SessionCallback** (p. 2679).

6.478.2.2 virtual cms::Destination* activemq::cmsutil::CmsTemplate::ProducerExecutor::getDestination (cms::Session *session *AMQCPP_UNUSED*) [inline, virtual]

6.478.3 Field Documentation

6.478.3.1 ProducerCallback* activemq::cmsutil::CmsTemplate::ProducerExecutor::action [protected]

6.478.3.2 cms::Destination* activemq::cmsutil::CmsTemplate::ProducerExecutor::destination [protected]

6.478.3.3 CmsTemplate* activemq::cmsutil::CmsTemplate::ProducerExecutor::parent [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CmsTemplate.h**

6.479 activemq::commands::ProducerId Class Reference

`#include <src/main/activemq/commands/ProducerId.h>`Inheritance diagram for activemq::commands::ProducerId:

Public Types

- typedef **decaf::lang::PointerComparator< ProducerId > COMPARATOR**

Public Member Functions

- **ProducerId** ()
- **ProducerId** (const **ProducerId** &other)
- **ProducerId** (const **SessionId** &**sessionId**, long long consumerId)
- **ProducerId** (std::string producerId)
- virtual ~**ProducerId** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ProducerId** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- const **Pointer< SessionId >** & **getParentId** () const
- void **setProducerSessionKey** (std::string sessionKey)
- virtual const std::string & **getConnectionId** () const
- virtual std::string & **getConnectionId** ()
- virtual void **setConnectionId** (const std::string &**connectionId**)
- virtual long long **getValue** () const
- virtual void **setValue** (long long **value**)
- virtual long long **getSessionId** () const
- virtual void **setSessionId** (long long **sessionId**)
- virtual int **compareTo** (const **ProducerId** &**value**) const
- virtual bool **equals** (const **ProducerId** &**value**) const
- virtual bool **operator==** (const **ProducerId** &**value**) const
- virtual bool **operator<** (const **ProducerId** &**value**) const
- **ProducerId** & **operator=** (const **ProducerId** &other)
- int **getHashCode** () const

Static Public Attributes

- static const unsigned char **ID_PRODUCERID** = 123

Protected Attributes

- std::string **connectionId**
- long long **value**
- long long **sessionId**

6.479.1 Member Typedef Documentation

6.479.1.1 typedef decaf::lang::PointerComparator<ProducerId> activemq::commands::ProducerId::COMPARATOR

6.479.2 Constructor & Destructor Documentation

6.479.2.1 activemq::commands::ProducerId::ProducerId ()

6.479.2.2 activemq::commands::ProducerId::ProducerId (const ProducerId & *other*)

6.479.2.3 activemq::commands::ProducerId::ProducerId (const SessionId & *sessionId*, long long *consumerId*)

6.479.2.4 activemq::commands::ProducerId::ProducerId (std::string *producerId*)

6.479.2.5 virtual activemq::commands::ProducerId::~ProducerId () [virtual]

6.479.3 Member Function Documentation

6.479.3.1 virtual ProducerId* activemq::commands::ProducerId::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.479.3.2 virtual int activemq::commands::ProducerId::compareTo (const ProducerId & *value*) const [virtual]

6.479.3.3 virtual void activemq::commands::ProducerId::copyDataStructure (const DataStructure * *src*) [virtual]

6.479.3.4 virtual bool activemq::commands::ProducerId::equals (const ProducerId & *value*) const [virtual]

6.479.3.5 virtual bool activemq::commands::ProducerId::equals (const DataStructure * *value*) const [virtual]

6.479.3.6 virtual std::string& activemq::commands::ProducerId::getConnectionId () [virtual]

6.479.3.7 virtual const std::string& activemq::commands::ProducerId::getConnectionId () const [virtual]

6.479.3.8 virtual unsigned char activemq::commands::ProducerId::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.479.3.9 int activemq::commands::ProducerId::getHashCode () const

6.479.3.10 const Pointer<SessionId>& activemq::commands::ProducerId::getParentId () const

6.479.3.11 virtual long long activemq::commands::ProducerId::getSessionId () const [virtual]

6.479.3.12 virtual long long activemq::commands::ProducerId::getValue () const [virtual]

6.479.3.13 virtual bool activemq::commands::ProducerId::operator< (const ProducerId & *value*) const [virtual]

6.479.3.14 ProducerId& activemq::commands::ProducerId::operator= (const ProducerId & *other*)

6.479.3.15 virtual bool activemq::commands::ProducerId::operator== (const ProducerId & *value*) const [virtual]

6.479.3.16 virtual void activemq::commands::ProducerId::setConnectionId (const std::string & *connectionId*) [virtual]

6.479.3.17 void activemq::commands::ProducerId::setProducerSessionKey (std::string *sessionKey*)

6.479.3.18 virtual void activemq::commands::ProducerId::setSessionId (long long *sessionId*) [virtual]

6.479.3.19 virtual void activemq::commands::ProducerId::setValue (long long *value*) [virtual]

6.479.3.20 virtual std::string activemq::commands::ProducerId::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.479.4 Field Documentation

6.479.4.1 std::string activemq::commands::ProducerId::connectionId [protected]

6.479.4.2 const unsigned char activemq::commands::ProducerId::ID_PRODUCERID = 123 [static]

6.479.4.3 long long activemq::commands::ProducerId::sessionId [protected]

6.479.4.4 long long activemq::commands::ProducerId::value [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ProducerId.h**

6.480 activemq::wireformat::openwire::marshal::generated::ProducerIdM Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ProducerIdMarshaller** (p. 2457).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ProducerIdMarshaller.h>`Inherita
diagram for activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller:

Public Member Functions

- **ProducerIdMarshaller** ()
- virtual ~**ProducerIdMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.480.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ProducerIdMarshaller** (p. 2457). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.480.2 Constructor & Destructor Documentation

6.480.2.1 activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller::ProducerIdM () [inline]

6.480.2.2 virtual activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller::~ProducerId () [inline, virtual]

6.480.3 Member Function Documentation

6.480.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.480.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller::getDataStructu () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.480.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.480.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller::looseUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.480.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.480.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.480.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller::tightUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ProducerIdMarshaller.h**

6.481 activemq::commands::ProducerInfo Class Reference

`#include <src/main/activemq/commands/ProducerInfo.h>`Inheritance diagram for activemq::commands::ProducerInfo:

Public Member Functions

- **ProducerInfo** ()
- virtual ~**ProducerInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ProducerInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- **Pointer**< **RemoveInfo** > **createRemoveCommand** () const
- virtual const **Pointer**< **ProducerId** > & **getProducerId** () const
- virtual **Pointer**< **ProducerId** > & **getProducerId** ()
- virtual void **setProducerId** (const **Pointer**< **ProducerId** > &**producerId**)
- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual const std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** () const
- virtual std::vector< **decaf::lang::Pointer**< **BrokerId** > > & **getBrokerPath** ()
- virtual void **setBrokerPath** (const std::vector< **decaf::lang::Pointer**< **BrokerId** > > &**brokerPath**)
- virtual bool **isDispatchAsync** () const
- virtual void **setDispatchAsync** (bool **dispatchAsync**)
- virtual int **getWindowSize** () const
- virtual void **setWindowSize** (int **windowSize**)
- virtual bool **isProducerInfo** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_PRODUCERINFO** = 6

Protected Attributes

- **Pointer< ProducerId > producerId**
- **Pointer< ActiveMQDestination > destination**
- std::vector< **decaf::lang::Pointer< BrokerId > > brokerPath**
- bool **dispatchAsync**
- int **windowSize**

6.481.1 Constructor & Destructor Documentation

6.481.1.1 activemq::commands::ProducerInfo::ProducerInfo ()

6.481.1.2 virtual activemq::commands::ProducerInfo::~ProducerInfo () [virtual]

6.481.2 Member Function Documentation

6.481.2.1 virtual ProducerInfo* activemq::commands::ProducerInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.481.2.2 virtual void activemq::commands::ProducerInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.481.2.3 Pointer<RemoveInfo> activemq::commands::ProducerInfo::createRemoveCommand () const

6.481.2.4 virtual bool activemq::commands::ProducerInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.481.2.5 virtual std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::ProducerInfo::getBrokerPath () [virtual]

6.481.2.6 virtual const std::vector< decaf::lang::Pointer<BrokerId> >& activemq::commands::ProducerInfo::getBrokerPath () const [virtual]

6.481.2.7 virtual unsigned char activemq::commands::ProducerInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.481.2.8 virtual Pointer<ActiveMQDestination>& activemq::commands::ProducerInfo::getDestination () [virtual]

6.481.2.9 virtual const Pointer<ActiveMQDestination>& activemq::commands::ProducerInfo::getDestination () const [virtual]

6.481.2.10 virtual Pointer<ProducerId>& activemq::commands::ProducerInfo::getProducerId () [virtual]

6.481.2.11 virtual const Pointer<ProducerId>& activemq::commands::ProducerInfo::getProducerId () const [virtual]

6.481.2.12 virtual int activemq::commands::ProducerInfo::getWindowSize () const [virtual]

6.481.2.13 virtual bool activemq::commands::ProducerInfo::isDispatchAsync () const [virtual]

6.481.2.14 virtual bool activemq::commands::ProducerInfo::isProducerInfo () const [inline, virtual]

Returns:

an answer of true to the **isProducerInfo()** (p. 2463) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 633).

6.481.2.15 virtual void activemq::commands::ProducerInfo::setBrokerPath (const std::vector< decaf::lang::Pointer< BrokerId > > & *brokerPath*) [virtual]

6.481.2.16 virtual void activemq::commands::ProducerInfo::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.481.2.17 virtual void activemq::commands::ProducerInfo::setDispatchAsync (bool *dispatchAsync*) [virtual]

6.481.2.18 virtual void activemq::commands::ProducerInfo::setProducerId (const Pointer< ProducerId > & *producerId*) [virtual]

6.481.2.19 virtual void activemq::commands::ProducerInfo::setWindowSize (int *windowSize*) [virtual]

6.481.2.20 virtual std::string activemq::commands::ProducerInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.481.2.21 virtual Pointer<Command> activemq::commands::ProducerInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.481.3 Field Documentation

6.481.3.1 std::vector< decaf::lang::Pointer<BrokerId> > activemq::commands::ProducerInfo::brokerPath [protected]

6.481.3.2 Pointer<ActiveMQDestination> activemq::commands::ProducerInfo::destination [protected]

6.481.3.3 bool activemq::commands::ProducerInfo::dispatchAsync [protected]

6.481.3.4 const unsigned char activemq::commands::ProducerInfo::ID_PRODUCERINFO = 6 [static]

6.481.3.5 Pointer<ProducerId> activemq::commands::ProducerInfo::producerId [protected]

6.481.3.6 int activemq::commands::ProducerInfo::windowSize [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ProducerInfo.h**

6.482 activemq::wireformat::openwire::marshal::generated::ProducerInfo Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ProducerInfoMarshaller** (p. 2466).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ProducerInfoMarshaller.h>`Inheri
diagram for activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller:

Public Member Functions

- **ProducerInfoMarshaller** ()
- virtual ~**ProducerInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.482.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ProducerInfoMarshaller** (p. 2466). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.482.2 Constructor & Destructor Documentation

6.482.2.1 activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller::ProducerIn() [inline]

6.482.2.2 virtual activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller::~ProducerI() [inline, virtual]

6.482.3 Member Function Documentation

6.482.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller::createObject() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.482.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller::getDataStruct() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.482.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller::looseMarshal(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.482.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller::looseUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.482.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.482.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.482.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller::tightUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ProducerInfoMarshaller.h**

6.483 activemq::state::ProducerState Class Reference

`#include <src/main/activemq/state/ProducerState.h>`

Public Member Functions

- **ProducerState** (**Pointer**< **ProducerInfo** > info)
- virtual ~**ProducerState** ()
- std::string **toString** () const
- const **Pointer**< **ProducerInfo** > **getInfo** () const
- void **setTransactionState** (**Pointer**< **TransactionState** > transactionState)
- **Pointer**< **TransactionState** > **getTransactionState** () const

6.483.1 Constructor & Destructor Documentation

6.483.1.1 activemq::state::ProducerState::ProducerState (Pointer< ProducerInfo > *info*)

6.483.1.2 virtual activemq::state::ProducerState::~ProducerState () `[virtual]`

6.483.2 Member Function Documentation

6.483.2.1 const Pointer<ProducerInfo> activemq::state::ProducerState::getInfo () const `[inline]`

6.483.2.2 Pointer<TransactionState> activemq::state::ProducerState::getTransactionState () const

6.483.2.3 void activemq::state::ProducerState::setTransactionState (Pointer< TransactionState > *transactionState*)

6.483.2.4 std::string activemq::state::ProducerState::toString () const

The documentation for this class was generated from the following file:

- src/main/activemq/state/**ProducerState.h**

6.484 decaf::util::Properties Class Reference

Java-like properties class for mapping string names to string values.

`#include <src/main/decaf/util/Properties.h>`

Public Member Functions

- **Properties** ()
- **Properties** (const **Properties** &src)
- virtual ~**Properties** ()
- **Properties** & **operator**= (const **Properties** &src)

  Assignment Operator.

- bool **isEmpty** () const

  Returns true if the properties object is empty.

- int **size** () const
- const char * **getProperty** (const std::string &name) const

  Looks up the value for the given property.

- std::string **getProperty** (const std::string &name, const std::string &defaultValue) const

  Looks up the value for the given property.

- std::string **setProperty** (const std::string &name, const std::string &value)

  Sets the value for a given property.

- bool **hasProperty** (const std::string &name) const

  Check to see if the Property exists in the set.

- std::string **remove** (const std::string &name)

  Removes the property with the given name.

- std::vector< std::string > **propertyNames** () const

  Returns an enumeration of all the keys in this property list, including distinct keys in the default property list if a key of the same name has not already been found from the main properties list.

- std::vector< std::pair< std::string, std::string > > **toArray** () const

  Method that serializes the contents of the property map to an array.

- void **copy** (const **Properties** &source)

  *Copies the contents of the given properties object to this one, if the given **Properties** (p. 2471) instance in NULL then this **List** (p. 1889) is not modified.*

- **Properties** * **clone** () const

  Clones this object.

- void **clear** ()

  Clears all properties from the map.

- bool **equals** (const **Properties** &source) const

  *Test whether two **Properties** (p. 2471) objects are equivalent.*

- std::string **toString** () const

  *Formats the contents of the **Properties** (p. 2471) Object into a string that can be logged, etc.*

- void **load** (**decaf::io::InputStream** *stream)

  Reads a property list (key and element pairs) from the input byte stream.

- void **load** (**decaf::io::Reader** *reader)

  Reads a property list (key and element pairs) from the input character stream in a simple line-oriented format.

- void **store** (**decaf::io::OutputStream** *out, const std::string &comment)

  *Writes this property list (key and element pairs) in this **Properties** (p. 2471) table to the output stream in a format suitable for loading into a **Properties** (p. 2471) table using the load(InputStream) method.*

- void **store** (**decaf::io::Writer** *writer, const std::string &comments)

  *Writes this property list (key and element pairs) in this **Properties** (p. 2471) table to the output character stream in a format that can be read by the load(Reader) method.*

Protected Attributes

- **decaf::lang::Pointer< Properties > defaults**

  Default list used to answer for any keys not found in the properties list, can be filled in by another implementation of this class.

6.484.1 Detailed Description

Java-like properties class for mapping string names to string values. The **Properties** (p. 2471) list contains a key value pair of properties that can be loaded and stored to a stream. Each **Properties** (p. 2471) instance can contain an **internal** (p. 96) **Properties** (p. 2471) list that contains default values for keys not found in the **Properties** (p. 2471) **List** (p. 1889).

The **Properties** (p. 2471) list if a Thread Safe class, it can be shared amongst objects in multiple threads without the need for additional synchronization.

Since:

1.0

6.484.2 Constructor & Destructor Documentation

6.484.2.1 decaf::util::Properties::Properties ()

6.484.2.2 decaf::util::Properties::Properties (const Properties & *src*)

6.484.2.3 virtual decaf::util::Properties::~Properties () [virtual]

6.484.3 Member Function Documentation

6.484.3.1 void decaf::util::Properties::clear ()

Clears all properties from the map.

6.484.3.2 Properties* decaf::util::Properties::clone () const

Clones this object.

Returns:

a replica of this object.

6.484.3.3 void decaf::util::Properties::copy (const Properties & *source*)

Copies the contents of the given properties object to this one, if the given **Properties** (p. 2471) instance in NULL then this **List** (p. 1889) is not modified.

Parameters:

source The source properties object.

6.484.3.4 bool decaf::util::Properties::equals (const Properties & *source*) const

Test whether two **Properties** (p. 2471) objects are equivalent. Two **Properties** (p. 2471) Objects are considered equivalent when they each contain the same number of elements and each key / value pair contained within the two are equal.

This comparison does not check the contents of the Defaults instance.

Parameters:

source The **Properties** (p. 2471) object to compare this instance to.

Returns:

true if the contents of the two **Properties** (p. 2471) objects are the same.

6.484.3.5 std::string decaf::util::Properties::getProperty (const std::string & *name*, const std::string & *defaultValue*) const

Looks up the value for the given property.

Parameters:

name The name of the property to be looked up.

defaultValue The value to be returned if the given property does not exist.

Returns:

The value of the property specified by `name`, if it exists, otherwise the `defaultValue`.

6.484.3.6 const char* decaf::util::Properties::getProperty (const std::string & *name*) const

Looks up the value for the given property.

Parameters:

name The name of the property to be looked up.

Returns:

the value of the property with the given name, if it exists. If it does not exist, returns NULL.

6.484.3.7 bool decaf::util::Properties::hasProperty (const std::string & *name*) const

Check to see if the Property exists in the set.

Parameters:

name The property name to check for in this properties set.

Returns:

true if property exists, false otherwise.

6.484.3.8 bool decaf::util::Properties::isEmpty () const

Returns true if the properties object is empty.

Returns:

true if empty

6.484.3.9 void decaf::util::Properties::load (decaf::io::Reader * *reader*)

Reads a property list (key and element pairs) from the input character stream in a simple line-oriented format. **Properties** (p. 2471) are processed in terms of lines. There are two kinds of line, natural lines and logical lines. A natural line is defined as a line of characters that is terminated either by a set of line terminator characters (

or or

) or by the end of the stream. A natural line may be either a blank line, a comment line, or hold all or some of a key-element pair. A logical line holds all the data of a key-element pair, which

may be spread out across several adjacent natural lines by escaping the line terminator sequence with a backslash character \. Note that a comment line cannot be extended in this manner; every natural line that is a comment must have its own comment indicator, as described below. Lines are read from input until the end of the stream is reached.

A natural line that contains only white space characters is considered blank and is ignored. A comment line has an ASCII '#' or '!' as its first non-white space character; comment lines are also ignored and do not encode key-element information. In addition to line terminators, this format considers the characters space (' '), tab ('), and form feed (') to be white space.

If a logical line is spread across several natural lines, the backslash escaping the line terminator sequence, the line terminator sequence, and any white space at the start of the following line have no affect on the key or element values. The remainder of the discussion of key and element parsing (when loading) will assume all the characters constituting the key and element appear on a single natural line after line continuation characters have been removed. Note that it is not sufficient to only examine the character preceding a line terminator sequence to decide if the line terminator is escaped; there must be an odd number of contiguous backslashes for the line terminator to be escaped. Since the input is processed from left to right, a non-zero even number of 2n contiguous backslashes before a line terminator (or elsewhere) encodes n backslashes after escape processing.

The key contains all of the characters in the line starting with the first non-white space character and up to, but not including, the first unescaped '=', ':', or white space character other than a line terminator. All of these key termination characters may be included in the key by escaping them with a preceding backslash character; for example,

\:\=

would be the two-character key ":=". Line terminator characters can be included using and

escape sequences. Any white space after the key is skipped; if the first non-white space character after the key is '=' or ':', then it is ignored and any white space characters after it are also skipped. All remaining characters on the line become part of the associated element string; if there are no remaining characters, the element is the empty string "". Once the raw character sequences constituting the key and element are identified, escape processing is performed as described above.

As an example, each of the following three lines specifies the key "Truth" and the associated element value "Beauty":

Truth = Beauty Truth:Beauty Truth :Beauty

As another example, the following three lines specify a single property:

fruits apple, banana, pear, \ cantaloupe, watermelon, \ kiwi, mango

The key is "fruits" and the associated element is: "apple, banana, pear, cantaloupe, watermelon, kiwi, mango"

Note that a space appears before each \ so that a space will appear after each comma in the final result; the \, line terminator, and leading white space on the continuation line are merely discarded and are not replaced by one or more other characters.

As a third example, the line:

cheeses

specifies that the key is "cheeses" and the associated element is the empty string "".

Characters in keys and elements can be represented in escape sequences similar to those used for character and string literals (see §3.3 and §3.10.6 of the Java Language Specification). The differences from the character escape sequences and Unicode escapes used for characters and strings are:

- Octal escapes are not recognized.
- The character sequence **does** not represent a backspace character.
- The method does not treat a backslash character, \, before a non-valid escape character as an error; the backslash is silently dropped. For example, in a C++ string the sequence "\z" would cause a compile time error. In contrast, this method silently drops the backslash. Therefore, this method treats the two character sequence "\b" as equivalent to the single character 'b'.
- Escapes are not necessary for single and double quotes; however, by the rule above, single and double quote characters preceded by a backslash still yield single and double quote characters, respectively.

This method does not close the Reader upon its return.

Parameters:

reader The Reader that provides an character stream as input.

Exceptions:

IOException if there is an error while reading from the stream.

IllegalArgumentException if malformed data is found while reading the properties.

NullPointerException if the passed stream is Null.

6.484.3.10 void decaf::util::Properties::load (decaf::io::InputStream * *stream*)

Reads a property list (key and element pairs) from the input byte stream. The input stream is in a simple line-oriented format as specified in load(Reader) and is assumed to use the ISO 8859-1 character encoding.

This method does not close the stream upon its return.

Parameters:

stream The stream to read the properties data from.

Exceptions:

IOException if there is an error while reading from the stream.

IllegalArgumentException if malformed data is found while reading the properties.

NullPointerException if the passed stream is Null.

6.484.3.11 Properties& decaf::util::Properties::operator= (const Properties & *src*)

Assignment Operator.

Parameters:

src The **Properties** (p. 2471) list to copy to this **List** (p. 1889).

Returns:

a reference to this **List** (p. 1889) for use in chaining.

6.484.3.12 std::vector<std::string> decaf::util::Properties::propertyNames () const

Returns an enumeration of all the keys in this property list, including distinct keys in the default property list if a key of the same name has not already been found from the main properties list.

Returns:

a set of keys in this property list where the key and its corresponding value are strings, including the keys in the default property list.

6.484.3.13 std::string decaf::util::Properties::remove (const std::string & *name*)

Removes the property with the given name.

Parameters:

name The name of the property to remove.

Returns:

the previous value of the property if set, or empty string.

6.484.3.14 std::string decaf::util::Properties::setProperty (const std::string & *name*, const std::string & *value*)

Sets the value for a given property. If the property already exists, overwrites the value.

Parameters:

name The name of the value to be written.

value The value to be written.

Returns:

the old value of the property or empty string if not set.

6.484.3.15 int decaf::util::Properties::size () const

Returns:

The number of **Properties** (p. 2471) in this **Properties** (p. 2471) Object.

6.484.3.16 void decaf::util::Properties::store (decaf::io::Writer * *writer*, const std::string & *comments*)

Writes this property list (key and element pairs) in this **Properties** (p. 2471) table to the output character stream in a format that can be read by the load(Reader) method. **Properties** (p. 2471) from the defaults table of this **Properties** (p. 2471) table (if any) are not written out by this method.

If the comments argument is not empty, then an ASCII # character, the comments string, and a line separator are first written to the output stream. Thus, the comments can serve as an identifying comment. Any one of a line feed ('

'), a carriage return (''), or a carriage return followed immediately by a line feed in comments is replaced by a line separator generated by the Writer and if the next character in comments is not character # or character ! then an ASCII # is written out after that line separator.

Next, a comment line is always written, consisting of an ASCII # character, the current date and time (as if produced by the toString method of **Date** (p. 1298) for the current time), and a line separator as generated by the Writer.

Then every entry in this **Properties** (p. 2471) table is written out, one per line. For each entry the key string is written, then an ASCII =, then the associated element string. For the key, all space characters are written with a preceding \ character. For the element, leading space characters, but not embedded or trailing space characters, are written with a preceding \ character. The key and element characters #, !, =, and : are written with a preceding backslash to ensure that they are properly loaded.

After the entries have been written, the output stream is flushed. The output stream remains open after this method returns.

Parameters:

writer The Writer instance to use to output the properties.

comments A description of these properties that is written before writing the properties.

Exceptions:

IOException if there is an error while writing from the stream.

NullPointerException if the passed stream is Null.

6.484.3.17 void decaf::util::Properties::store (decaf::io::OutputStream * *out*, const std::string & *comment*)

Writes this property list (key and element pairs) in this **Properties** (p. 2471) table to the output stream in a format suitable for loading into a **Properties** (p. 2471) table using the load(InputStream) method. **Properties** (p. 2471) from the defaults table of this **Properties** (p. 2471) table (if any) are not written out by this method.

This method outputs the comments, properties keys and values in the same format as specified in store(Writer), with the following differences:

- The stream is written using the ISO 8859-1 character encoding.
- Characters not in Latin-1 in the comments are written as for their appropriate unicode hexadecimal value xxxx.
- Characters less than and characters greater than in property keys or values are written as for the appropriate hexadecimal value xxxx.

After the entries have been written, the output stream is flushed. The output stream remains open after this method returns.

Parameters:

out The OutputStream instance to write the properties to.

comment A description of these properties that is written to the output stream.

Exceptions:

IOException if there is an error while writing from the stream.

NullPointerException if the passed stream is Null.

6.484.3.18 std::vector< std::pair< std::string, std::string > > decaf::util::Properties::toArray () const

Method that serializes the contents of the property map to an array.

Returns:

list of pairs where the first is the name and the second is the value.

6.484.3.19 std::string decaf::util::Properties::toString () const

Formats the contents of the **Properties** (p. 2471) Object into a string that can be logged, etc.

Returns:

string value of this object.

6.484.4 Field Documentation

6.484.4.1 decaf::lang::Pointer<Properties> decaf::util::Properties::defaults [protected]

Default list used to answer for any keys not found in the properties list, can be filled in by another implementation of this class.

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Properties.h**

6.485 decaf::util::logging::PropertiesChangeListener Class Reference

Defines the interface that classes can use to listen for change events on **Properties** (p. 2471).

`#include <src/main/decaf/util/logging/PropertiesChangeListener.h>`

Public Member Functions

- virtual ~**PropertiesChangeListener** ()
- virtual void **onPropertiesReset** ()=0

  *Indicates that the **Properties** (p. 2471) have all been reset and should be considered to be back to their default values.*

- virtual void **onPropertyChanged** (const std::string &name, const std::string &oldValue, const std::string &newValue)=0

  Change Event, called when a property is changed, includes the name of the property that was changed along with it old and new values.

6.485.1 Detailed Description

Defines the interface that classes can use to listen for change events on **Properties** (p. 2471).

Since:

1.0

6.485.2 Constructor & Destructor Documentation

6.485.2.1 virtual decaf::util::logging::PropertiesChangeListener::~PropertiesChangeListener () [inline, virtual]

6.485.3 Member Function Documentation

6.485.3.1 virtual void decaf::util::logging::PropertiesChangeListener::onPropertiesReset () [pure virtual]

Indicates that the **Properties** (p. 2471) have all been reset and should be considered to be back to their default values.

6.485.3.2 virtual void decaf::util::logging::PropertiesChangeListener::onPropertyChanged (const std::string & *name*, const std::string & *oldValue*, const std::string & *newValue*) [pure virtual]

Change Event, called when a property is changed, includes the name of the property that was changed along with it old and new values.

Parameters:

name The name of the Property that changed.

oldValue The old Value of the Property.

newValue The new Value of the Property.

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**PropertiesChangeListener.h**

6.486 decaf::net::ProtocolException Class Reference

`#include <src/main/decaf/net/ProtocolException.h>`Inheritance diagram for decaf::net::ProtocolException:

Public Member Functions

- **ProtocolException** ()

  Default Constructor.

- **ProtocolException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **ProtocolException** (const **ProtocolException** &ex)

  Copy Constructor.

- **ProtocolException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **ProtocolException** (const std::exception *cause)

  Constructor.

- **ProtocolException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **ProtocolException** * **clone** () const

  Clones this exception.

- virtual ~**ProtocolException** () throw ()

6.486.1 Constructor & Destructor Documentation

6.486.1.1 decaf::net::ProtocolException::ProtocolException ()

Default Constructor.

6.486.1.2 decaf::net::ProtocolException::ProtocolException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.486.1.3 decaf::net::ProtocolException::ProtocolException (const ProtocolException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.486.1.4 decaf::net::ProtocolException::ProtocolException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.486.1.5 decaf::net::ProtocolException::ProtocolException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.486.1.6 decaf::net::ProtocolException::ProtocolException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.486.1.7 virtual decaf::net::ProtocolException::~ProtocolException () throw () [virtual]

6.486.2 Member Function Documentation

6.486.2.1 virtual ProtocolException* decaf::net::ProtocolException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::io::IOException** (p. 1775).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**ProtocolException.h**

6.487 decaf::security::Provider Class Reference

This class represents a "provider" for the Decaf **Security** (p. 2628) API, where a provider implements some or all parts of Decaf **Security** (p. 2628).

`#include <src/main/decaf/security/Provider.h>`Inheritance diagram for decaf::security::Provider:

Public Member Functions

- virtual ~**Provider** ()
- std::string **getName** () const
- double **getVersion** () const
- std::string **getInfo** () const
- const **decaf::util::Set**< **ProviderService** * > & **getServices** () const

Protected Member Functions

- **Provider** (const std::string &name, double version, const std::string &info)
- virtual void **initialize** ()
- void **addService** (**ProviderService** *service)

6.487.1 Detailed Description

This class represents a "provider" for the Decaf **Security** (p. 2628) API, where a provider implements some or all parts of Decaf **Security** (p. 2628). Services that a provider may implement include:

Algorithms (such as DSA, RSA, MD5 or SHA-1). **Key** (p. 1828) generation, conversion, and management facilities (such as for algorithm-specific keys).

Each provider has a name and a version number, and is configured in each runtime it is installed in.

Since:

1.0

6.487.2 Constructor & Destructor Documentation

6.487.2.1 decaf::security::Provider::Provider (const std::string & *name*, double *version*, const std::string & *info*) [protected]

6.487.2.2 virtual decaf::security::Provider::~Provider () [virtual]

6.487.3 Member Function Documentation

6.487.3.1 void decaf::security::Provider::addService (ProviderService * *service*) [protected]

6.487.3.2 std::string decaf::security::Provider::getInfo () const [inline]

6.487.3.3 std::string decaf::security::Provider::getName () const [inline]

6.487.3.4 const decaf::util::Set<ProviderService*>& decaf::security::Provider::getServices () const

6.487.3.5 double decaf::security::Provider::getVersion () const [inline]

6.487.3.6 virtual void decaf::security::Provider::initialize () [inline, protected, virtual]

Reimplemented in **decaf::internal::security::provider::DefaultProvider** (p. 1312).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**Provider.h**

6.488 decaf::security::ProviderException Class Reference

`#include <src/main/decaf/security/ProviderException.h>`Inheritance diagram for decaf::security::ProviderException:

Public Member Functions

- **ProviderException** ()

  Default Constructor.

- **ProviderException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **ProviderException** (const **ProviderException** &ex)

  Copy Constructor.

- **ProviderException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **ProviderException** (const std::exception *cause)

  Convenience Constructor.

- **ProviderException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **ProviderException** * **clone** () const

  Clones this exception.

- virtual ~**ProviderException** () throw ()

6.488.1 Constructor & Destructor Documentation

6.488.1.1 decaf::security::ProviderException::ProviderException ()

Default Constructor.

6.488.1.2 decaf::security::ProviderException::ProviderException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.488.1.3 decaf::security::ProviderException::ProviderException (const ProviderException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.488.1.4 decaf::security::ProviderException::ProviderException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.488.1.5 decaf::security::ProviderException::ProviderException (const std::exception * *cause*)

Convenience Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.488.1.6 decaf::security::ProviderException::ProviderException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.488.1.7 virtual decaf::security::ProviderException::~ProviderException () throw () [virtual]

6.488.2 Member Function Documentation

6.488.2.1 virtual ProviderException* decaf::security::ProviderException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::lang::exceptions::RuntimeException** (p. 2613).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**ProviderException.h**

6.489 decaf::security::ProviderService Class Reference

`#include <src/main/decaf/security/ProviderService.h>`Inheritance diagram for decaf::security::ProviderService:

Public Member Functions

- **ProviderService** (const **Provider** *provider, const std::string &type, const std::string &algorithm)
- virtual ~**ProviderService** ()
- std::string **getType** () const

  *Gets the type of service this **ProviderService** (p. 2490) instance supports.*

- std::string **getAlgorithm** () const

  *Gets the algorithm name that this **ProviderService** (p. 2490) supplies for its service type.*

- const **Provider** * **getProvider** () const

  *Returns a pointer to the **Provider** (p. 2485) that owns this **ProviderService** (p. 2490).*

- virtual **SecuritySpi** * **newInstance** ()=0

  Return a new instance of the implementation described by this service.

- std::string **toString** () const

  Return a String representation of this service.

6.489.1 Constructor & Destructor Documentation

6.489.1.1 decaf::security::ProviderService::ProviderService (const Provider * *provider*, const std::string & *type*, const std::string & *algorithm*)

6.489.1.2 virtual decaf::security::ProviderService::~ProviderService () `[virtual]`

6.489.2 Member Function Documentation

6.489.2.1 std::string decaf::security::ProviderService::getAlgorithm () const `[inline]`

Gets the algorithm name that this **ProviderService** (p. 2490) supplies for its service type.

Returns:

the algorithm this **ProviderService** (p. 2490) supports.

6.489.2.2 const Provider* decaf::security::ProviderService::getProvider () const [inline]

Returns a pointer to the **Provider** (p. 2485) that owns this **ProviderService** (p. 2490). The returned pointer is owned by the **Security** (p. 2628) framework an should not be deleted by the caller at any time.

Returns:

pointer to the **security** (p. 120) provider that owns this service.

6.489.2.3 std::string decaf::security::ProviderService::getType () const [inline]

Gets the type of service this **ProviderService** (p. 2490) instance supports.

Returns:

type name of the service this **ProviderService** (p. 2490) supports.

6.489.2.4 virtual SecuritySpi* decaf::security::ProviderService::newInstance () [pure virtual]

Return a new instance of the implementation described by this service. The **security** (p. 120) provider framework uses this method to construct implementations. Applications will typically not need to call it.

Returns:

a new instance of the **SecuritySpi** (p. 2632) provided by this **ProviderService** (p. 2490).

Implemented in **decaf::internal::security::provider::DefaultMessageDigestProviderService** (p. 1306), and **decaf::internal::security::provider::DefaultSecureRandomProviderService** (p. 1319).

6.489.2.5 std::string decaf::security::ProviderService::toString () const [inline]

Return a String representation of this service. The format of this string is always, "type.algorithm"

Returns:

string describing this **ProviderService** (p. 2490).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**ProviderService.h**

6.490 decaf::security::PublicKey Class Reference

A public key.

`#include <src/main/decaf/security/PublicKey.h>`Inheritance diagram for decaf::security::PublicKey:

Public Member Functions

- virtual ~**PublicKey** ()

6.490.1 Detailed Description

A public key. This interface contains no methods or constants. It merely serves to group (and provide type safety for) all public key interfaces.

6.490.2 Constructor & Destructor Documentation

6.490.2.1 virtual decaf::security::PublicKey::~PublicKey () [virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/security/**PublicKey.h**

6.491 decaf::io::PushbackInputStream Class Reference

A **PushbackInputStream** (p. 2493) adds functionality to another input stream, namely the ability to "push back" or "unread" one byte.

`#include <src/main/decaf/io/PushbackInputStream.h>`Inheritance diagram for decaf::io::PushbackInputStream:

Public Member Functions

- **PushbackInputStream** (**InputStream** *stream, bool **own**=false)

  *Creates a **PushbackInputStream** (p. 2493) and saves its argument, the input stream in, for later use.*

- **PushbackInputStream** (**InputStream** *stream, int bufSize, bool **own**=false)

  *Creates a **PushbackInputStream** (p. 2493) and saves its argument, the input stream in, for later use.*

- virtual ~**PushbackInputStream** ()
- void **unread** (unsigned char value)

  Pushes back the given byte, the byte is copied to the front of the pushback buffer, future calls to read start reading from the beginning of these pushed back byte.

- void **unread** (const unsigned char *buffer, int size)

  Pushes back the given array of bytes, the bytes are copied to the front of the pushback buffer, future calls to read start reading from the beginning of these pushed back bytes.

- void **unread** (const unsigned char *buffer, int size, int offset, int length)

  Pushes back the given array of bytes, the bytes are copied to the front of the pushback buffer, future calls to read start reading from the beginning of these pushed back bytes.

- virtual int **available** () const

  Indicates the number of bytes available.
  The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.
  The default implementation of this method returns zero.
  Returns:

  the number of bytes available on this input stream.
  Exceptions:

  ***IOException** (p. **1774**) if an I/O error occurs.*

- virtual long long **skip** (long long num)

  Skips over and discards n bytes of data from this input stream.
  *The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned. The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.*

Parameters:

num *The number of bytes to skip.*

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774) if an I/O error occurs.*
UnsupportedOperationException *if the concrete stream class does not support skipping bytes.*

- virtual void **mark** (int readLimit)

  Does nothing except throw an ***IOException*** *(p. 1774).*

- virtual void **reset** ()

  Does nothing except throw an ***IOException*** *(p. 1774).*

- virtual bool **markSupported** () const

  Does nothing except throw an ***IOException*** *(p. 1774).*

Protected Member Functions

- virtual int **doReadByte** ()
- virtual int **doReadArrayBounded** (unsigned char *buffer, int size, int offset, int length)

6.491.1 Detailed Description

A **PushbackInputStream** (p. 2493) adds functionality to another input stream, namely the ability to "push back" or "unread" one byte. This is useful in situations where it is convenient for a fragment of **code** (p. 999) to read an indefinite number of data bytes that are delimited by a particular byte value; after reading the terminating byte, the **code** (p. 999) fragment can "unread" it, so that the next read operation on the input stream will reread the byte that was pushed back. For example, bytes representing the characters constituting an identifier might be terminated by a byte representing an operator character; a method whose job is to read just an identifier can read until it sees the operator and then push the operator back to be re-read.

Since:

1.0

6.491.2 Constructor & Destructor Documentation

6.491.2.1 decaf::io::PushbackInputStream::PushbackInputStream (InputStream * *stream*, bool *own* = `false`)

Creates a **PushbackInputStream** (p. 2493) and saves its argument, the input stream in, for later use. Initially, there is no pushed-back byte.

Parameters:

stream The **InputStream** (p. 1694) instance to wrap.

Boolean value indicating if this **FilterInputStream** (p. 1508) owns the wrapped stream.

6.491.2.2 decaf::io::PushbackInputStream::PushbackInputStream (InputStream * *stream*, int *bufSize*, bool *own* = `false`)

Creates a **PushbackInputStream** (p. 2493) and saves its argument, the input stream in, for later use. Initially, there is no pushed-back byte.

Parameters:

stream The **InputStream** (p. 1694) instance to wrap.

bufSize The number of byte to allocate for pushback into this stream.

Boolean value indicating if this **FilterInputStream** (p. 1508) owns the wrapped stream.

Exceptions:

IllegalArgumentException if the bufSize argument is < zero.

6.491.2.3 virtual decaf::io::PushbackInputStream::~PushbackInputStream () `[virtual]`

6.491.3 Member Function Documentation

6.491.3.1 virtual int decaf::io::PushbackInputStream::available () const `[virtual]`

Indicates the number of bytes available.

The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Returns the sum of the number of pushed back bytes if any and the amount of bytes available in the underlying stream via a call to available.

Reimplemented from **decaf::io::FilterInputStream** (p. 1510).

6.491.3.2 virtual int decaf::io::PushbackInputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) `[protected, virtual]`

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.491.3.3 virtual int decaf::io::PushbackInputStream::doReadByte () `[protected, virtual]`

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.491.3.4 virtual void decaf::io::PushbackInputStream::mark (int *readLimit*) [virtual]

Does nothing except throw an **IOException** (p. 1774). Marks the current position in the stream A subsequent call to the reset method repositions this stream at the last marked position so that subsequent reads re-read the same bytes.

If a stream instance reports that marks are supported then the stream will ensure that the same bytes can be read again after the reset method is called so long the readLimit is not reached.

Calling mark on a closed stream instance should have no effect.

The default implementation of this method does nothing.

Parameters:

readLimit The max bytes read before marked position is invalid.

Reimplemented from **decaf::io::FilterInputStream** (p. 1511).

6.491.3.5 virtual bool decaf::io::PushbackInputStream::markSupported () const [inline, virtual]

Does nothing except throw an **IOException** (p. 1774). Determines if this input stream supports the mark and reset methods.

Whether or not mark and reset are supported is an invariant property of a particular input stream instance.

The default implementation of this method returns false.

Returns:

true if this stream instance supports marks

Reimplemented from **decaf::io::FilterInputStream** (p. 1512).

6.491.3.6 virtual void decaf::io::PushbackInputStream::reset () [virtual]

Does nothing except throw an **IOException** (p. 1774). Repositions this stream to the position at the time the mark method was last called on this input stream.

If the method markSupported returns true, then: ∗ If the method mark has not been called since the stream was created, or the number of bytes read from the stream since mark was last called is larger than the argument to mark at that last call, then an **IOException** (p. 1774) might be thrown. ∗ If such an **IOException** (p. 1774) is not thrown, then the stream is reset to a state such that all the bytes read since the most recent call to mark (or since the start of the file, if mark has not been called) will be resupplied to subsequent callers of the read method, followed by any bytes that otherwise would have been the next input data as of the time of the call to reset.

If the method markSupported returns false, then: ∗ The call to reset may throw an **IOException** (p. 1774). ∗ If an **IOException** (p. 1774) is not thrown, then the stream is reset to a fixed state that depends on the particular type of the input stream and how it was created. The bytes that will be supplied to subsequent callers of the read method depend on the particular type of the input stream.

The default implementation of this method throws an **IOException** (p. 1774).

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented from **decaf::io::FilterInputStream** (p. 1512).

6.491.3.7 virtual long long decaf::io::PushbackInputStream::skip (long long *num*) [virtual]

Skips over and discards n bytes of data from this input stream.

The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

This method first skips bytes in the local pushed back buffer before attempting to complete the request by calling the underlying stream skip method with the remainder of bytes that needs to be skipped.

Reimplemented from **decaf::io::FilterInputStream** (p. 1513).

6.491.3.8 void decaf::io::PushbackInputStream::unread (const unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Pushes back the given array of bytes, the bytes are copied to the front of the pushback buffer, future calls to read start reading from the beginning of these pushed back bytes.

Parameters:

buffer The bytes to copy to the front of push back buffer.

size The size of the array to be copied.

offset The position in the buffer to start copying from.

length The number of bytes to push back from the passed buffer.

Exceptions:

NullPointerException if the buffer passed is NULL.

IndexOutOfBoundsException if the offset + length is greater than the buffer size.

IOException *(p. 1774)* if there is not enough space in the pushback buffer or this stream has already been closed.

6.491.3.9 void decaf::io::PushbackInputStream::unread (const unsigned char * *buffer*, int *size*)

Pushes back the given array of bytes, the bytes are copied to the front of the pushback buffer, future calls to read start reading from the beginning of these pushed back bytes.

Parameters:

buffer The bytes to copy to the front of push back buffer.

size The size of the array to be copied.

Exceptions:

NullPointerException if the buffer passed is NULL.

IndexOutOfBoundsException if the size value given is negative.

IOException *(p. 1774)* if there is not enough space in the pushback buffer or this stream has already been closed.

6.491.3.10 void decaf::io::PushbackInputStream::unread (unsigned char *value*)

Pushes back the given byte, the byte is copied to the front of the pushback buffer, future calls to read start reading from the beginning of these pushed back byte.

Parameters:

value The byte that is to be placed at the front of the push back buffer.

Exceptions:

IOException *(p. 1774)* if there is not enough space in the pushback buffer or this stream has already been closed.

The documentation for this class was generated from the following file:

- src/main/decaf/io/**PushbackInputStream.h**

6.492 cms::Queue Class Reference

An interface encapsulating a provider-specific queue name.

`#include <src/main/cms/Queue.h>`Inheritance diagram for cms::Queue:

Public Member Functions

- virtual ~**Queue** ()
- virtual std::string **getQueueName** () const =0

  Gets the name of this queue.

6.492.1 Detailed Description

An interface encapsulating a provider-specific queue name. Messages sent to a **Queue** (p. 2499) are sent to a Single Subscriber on that **Queue** (p. 2499) **Destination** (p. 1371). This allows for Queues to be used as load balances implementing a SEDA based architecture. The length of time that a Provider will store a **Message** (p. 2077) in a **Queue** (p. 2499) is not defined by the CMS API, consult your Provider documentation for this information.

Since:

1.0

6.492.2 Constructor & Destructor Documentation

6.492.2.1 virtual cms::Queue::~Queue () [virtual]

6.492.3 Member Function Documentation

6.492.3.1 virtual std::string cms::Queue::getQueueName () const [pure virtual]

Gets the name of this queue.

Returns:

The queue name.

Exceptions:

CMSException *(*p. ***973****)* - If an internal error occurs.

Implemented in **activemq::commands::ActiveMQQueue** (p. 417), and **activemq::commands::ActiveMQTempQueue** (p. 499).

The documentation for this class was generated from the following file:

- src/main/cms/**Queue.h**

6.493 decaf::util::Queue< E > Class Template Reference

A kind of collection provides advanced operations than other basic collections, such as insertion, extraction, and inspection.

`#include <src/main/decaf/util/Queue.h>`Inheritance diagram for decaf::util::Queue< E >:

Public Member Functions

- virtual ~**Queue** ()
- virtual bool **offer** (const E &value)=0

  Inserts the specified element into the queue provided that the condition allows such an operation.

- virtual bool **poll** (E &result)=0

  Gets and removes the element in the head of the queue.

- virtual E **remove** ()=0

  Gets and removes the element in the head of the queue.

- virtual bool **peek** (E &result) const =0

  Gets but not removes the element in the head of the queue.

- virtual E **element** () const =0

  Gets but not removes the element in the head of the queue.

6.493.1 Detailed Description

template<typename E> class decaf::util::Queue< E >

A kind of collection provides advanced operations than other basic collections, such as insertion, extraction, and inspection. Generally, a queue orders its elements by means of first-in-first-out. While priority queue orders its elements according to a comparator specified or the elements' natural order. Furthermore, a stack orders its elements last-in-first out.

Queue (p. 2500) does not provide blocking queue methods, which will block until the operation of the method is allowed. BlockingQueue interface defines such methods.

Unlike the Java **Queue** (p. 2500) interface the methods of this class cannot return null to indicate that a **Queue** (p. 2500) is empty since null has no meaning for elements such as classes, structs and primitive types and cannot be used in a meaningful way to check for an empty queue. Methods that would have returned null in the Java **Queue** (p. 2500) interface have been altered to return a boolean value indicating if the operation succeeded and take single argument that is a reference to the location where the returned value is to be assigned. This implies that elements in the **Queue** (p. 2500) must be *assignable* in order to utilize these methods.

Since:

1.0

6.493.2 Constructor & Destructor Documentation

6.493.2.1 template<typename E> virtual decaf::util::Queue< E >::~Queue () [inline, virtual]

6.493.3 Member Function Documentation

6.493.3.1 template<typename E> virtual E decaf::util::Queue< E >::element () const [pure virtual]

Gets but not removes the element in the head of the queue. Throws a **NoSuchElementException** (p. 2247) if there is no element in the queue.

Returns:

the element in the head of the queue.

Exceptions:

NoSuchElementException *(p. 2247)* if there is no element in the queue.

Implemented in **decaf::util::AbstractQueue< E >** (p. 177), **decaf::util::LinkedList< E >** (p. 1877), **decaf::util::AbstractQueue< Pointer< Transport > >** (p. 177), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1877), **decaf::util::LinkedList< CompositeTask * >** (p. 1877), **decaf::util::LinkedList< URI >** (p. 1877), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1877), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1877), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1877), **decaf::util::LinkedList< decaf::net::URI >** (p. 1877), **decaf::util::LinkedList< Pointer< Command > >** (p. 1877), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1877), **decaf::util::LinkedList< cms::Destination * >** (p. 1877), **decaf::util::LinkedList< cms::Session * >** (p. 1877), and **decaf::util::LinkedList< cms::Connection * >** (p. 1877).

6.493.3.2 template<typename E> virtual bool decaf::util::Queue< E >::offer (const E & *value*) [pure virtual]

Inserts the specified element into the queue provided that the condition allows such an operation. The method is generally preferable to the collection.add(E), since the latter might throw an exception if the operation fails.

Parameters:

value the specified element to insert into the queue.

Returns:

true if the operation succeeds and false if it fails.

Exceptions:

NullPointerException if the **Queue** (p. 2500) implementation does not allow Null values to be inserted into the **Queue** (p. 2500).

IllegalArgumentException if some property of the specified element prevents it from being added to this queue

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1856), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2958), **decaf::util::LinkedList< E >** (p. 1880), **decaf::util::PriorityQueue< E >** (p. 2436), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1880), **decaf::util::LinkedList< CompositeTask * >** (p. 1880), **decaf::util::LinkedList< URI >** (p. 1880), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1880), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1880), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1880), **decaf::util::LinkedList< decaf::net::URI >** (p. 1880), **decaf::util::LinkedList< Pointer< Command > >** (p. 1880), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1880), **decaf::util::LinkedList< cms::Destination * >** (p. 1880), **decaf::util::LinkedList< cms::Session * >** (p. 1880), and **decaf::util::LinkedList< cms::Connection * >** (p. 1880).

Referenced by decaf::util::AbstractQueue< Pointer< Transport > >::add().

6.493.3.3 template<typename E> virtual bool decaf::util::Queue< E >::peek (E & *result*) const [pure virtual]

Gets but not removes the element in the head of the queue. The result if successful is assigned to the result parameter.

Parameters:

result Reference to an instance of the contained type to assigned the removed value to.

Returns:

true if the element at the head of the queue was removed and assigned to the result parameter.

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1858), **decaf::util::LinkedList< E >** (p. 1882), **decaf::util::PriorityQueue< E >** (p. 2437), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1882), **decaf::util::LinkedList< CompositeTask * >** (p. 1882), **decaf::util::LinkedList< URI >** (p. 1882), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1882), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1882), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1882), **decaf::util::LinkedList< decaf::net::URI >** (p. 1882), **decaf::util::LinkedList< Pointer< Command > >** (p. 1882), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1882), **decaf::util::LinkedList< cms::Destination * >** (p. 1882), **decaf::util::LinkedList< cms::Session * >** (p. 1882), and **decaf::util::LinkedList< cms::Connection * >** (p. 1882).

Referenced by decaf::util::AbstractQueue< Pointer< Transport > >::element().

6.493.3.4 template<typename E> virtual bool decaf::util::Queue< E >::poll (E & *result*) [pure virtual]

Gets and removes the element in the head of the queue. If the operation succeeds the value of the element at the head of the **Queue** (p. 2500) is assigned to the result parameter and the method returns true. If the operation fails the method returns false and the value of the result parameter is undefined.

Parameters:

result Reference to an instance of the contained type to assigned the removed value to.

Returns:

true if the element at the head of the queue was removed and assigned to the result parameter.

Implemented in **decaf::util::concurrent::LinkedBlockingQueue< E >** (p. 1858), **decaf::util::concurrent::SynchronousQueue< E >** (p. 2959), **decaf::util::LinkedList< E >** (p. 1882), **decaf::util::PriorityQueue< E >** (p. 2437), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1882), **decaf::util::LinkedList< CompositeTask * >** (p. 1882), **decaf::util::LinkedList< URI >** (p. 1882), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1882), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1882), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1882), **decaf::util::LinkedList< decaf::net::URI >** (p. 1882), **decaf::util::LinkedList< Pointer< Command > >** (p. 1882), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1882), **decaf::util::LinkedList< cms::Destination * >** (p. 1882), **decaf::util::LinkedList< cms::Session * >** (p. 1882), and **decaf::util::LinkedList< cms::Connection * >** (p. 1882).

Referenced by decaf::util::AbstractQueue< Pointer< Transport > >::clear(), and decaf::util::AbstractQueue< Pointer< Transport > >::remove().

6.493.3.5 template<typename E> virtual E decaf::util::Queue< E >::remove () [pure virtual]

Gets and removes the element in the head of the queue. Throws a **NoSuchElementException** (p. 2247) if there is no element in the queue.

Returns:

the element in the head of the queue.

Exceptions:

NoSuchElementException *(p. 2247)* if there is no element in the queue.

Implemented in **decaf::util::AbstractQueue< E >** (p. 178), **decaf::util::LinkedList< E >** (p. 1884), **decaf::util::PriorityQueue< E >** (p. 2438), **decaf::util::AbstractQueue< Pointer< Transport > >** (p. 178), **decaf::util::LinkedList< cms::MessageConsumer * >** (p. 1884), **decaf::util::LinkedList< CompositeTask * >** (p. 1884), **decaf::util::LinkedList< URI >** (p. 1884), **decaf::util::LinkedList< Pointer< MessageDispatch > >** (p. 1884), **decaf::util::LinkedList< Pointer< DestinationInfo > >** (p. 1884), **decaf::util::LinkedList< PrimitiveValueNode >** (p. 1884), **decaf::util::LinkedList< decaf::net::URI >** (p. 1884), **decaf::util::LinkedList< Pointer< Command > >** (p. 1884), **decaf::util::LinkedList< cms::MessageProducer * >** (p. 1884), **decaf::util::LinkedList< cms::Destination * >** (p. 1884), **decaf::util::LinkedList< cms::Session * >** (p. 1884), and **decaf::util::LinkedList< cms::Connection * >** (p. 1884).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Queue.h**

6.494 cms::QueueBrowser Class Reference

This class implements in interface for browsing the messages in a **Queue** (p. 2499) without removing them.

`#include <src/main/cms/QueueBrowser.h>`Inheritance diagram for cms::QueueBrowser:

Public Member Functions

- virtual ~**QueueBrowser** ()
- virtual const **Queue** * **getQueue** () const =0
- virtual std::string **getMessageSelector** () const =0
- virtual **cms::MessageEnumeration** * **getEnumeration** ()=0

  *Gets a pointer to an Enumeration object for browsing the Messages currently in the **Queue** (p. 2499) in the order that a client would receive them.*

6.494.1 Detailed Description

This class implements in interface for browsing the messages in a **Queue** (p. 2499) without removing them. To browse the contents of the **Queue** (p. 2499) the client calls the `getEnumeration` method to retrieve a new instance of a **Queue** (p. 2499) Enumerator. The client then calls the hasMoreMessages method of the Enumeration, if it returns true the client can safely call the nextMessage method of the Enumeration instance.

Enumeration* enumeration = queueBrowser->**getEnumeration()** (p. 2504);

while(enumeration->hasMoreMessages()) { **cms::Message** (p. 2077)* message = enumeration->nextMessage();

// ... Do something with the **Message** (p. 2077).

delete message; }

Since:

1.1

6.494.2 Constructor & Destructor Documentation

6.494.2.1 virtual cms::QueueBrowser::~QueueBrowser () [virtual]

6.494.3 Member Function Documentation

6.494.3.1 virtual cms::MessageEnumeration* cms::QueueBrowser::getEnumeration () [pure virtual]

Gets a pointer to an Enumeration object for browsing the Messages currently in the **Queue** (p. 2499) in the order that a client would receive them. The pointer returned is owned by the browser and should not be deleted by the client application.

Returns:

a pointer to a **Queue** (p. 2499) Enumeration, this Pointer is owned by the **QueueBrowser** (p. 2504) and should not be deleted by the client.

Exceptions:

CMSException *(p. 973)* if an internal error occurs.

Implemented in **activemq::core::ActiveMQQueueBrowser** (p. 420).

6.494.3.2 virtual std::string cms::QueueBrowser::getMessageSelector () const [pure virtual]

Returns:

the MessageSelector that is used on when this browser was created or empty string if no selector was present.

Exceptions:

CMSException *(p. 973)* if an internal error occurs.

Implemented in **activemq::core::ActiveMQQueueBrowser** (p. 420).

6.494.3.3 virtual const Queue* cms::QueueBrowser::getQueue () const [pure virtual]

Returns:

the **Queue** (p. 2499) that this browser is listening on.

Exceptions:

CMSException *(p. 973)* if an internal error occurs.

Implemented in **activemq::core::ActiveMQQueueBrowser** (p. 421).

The documentation for this class was generated from the following file:

- src/main/cms/**QueueBrowser.h**

6.495 decaf::util::Random Class Reference

Random (p. 2506) Value Generator which is used to generate a stream of pseudorandom numbers.

`#include <src/main/decaf/util/Random.h>`Inheritance diagram for decaf::util::Random:

Public Member Functions

- **Random** ()

  Construct a random generator with the current time of day in milliseconds as the initial state.

- **Random** (unsigned long long seed)

  Construct a random generator with the given `seed` *as the initial state.*

- virtual ~**Random** ()
- bool **nextBoolean** ()

  Answers the next pseudo-random, uniformly distributed boolean value generated by this generator.

- double **nextDouble** ()

  Generates a normally distributed random double number between 0.0 inclusively and 1.0 exclusively.

- float **nextFloat** ()

  Generates a normally distributed random float number between 0.0 inclusively and 1.0 exclusively.

- double **nextGaussian** ()

  Pseudo-randomly generates (approximately) a normally distributed `double` *value with mean 0.0 and a standard deviation value of* `1.0` *using the polar method of G.*

- int **nextInt** ()

  Generates a uniformly distributed 32-bit `int` *value from the this random number sequence.*

- int **nextInt** (int n)

  Returns to the caller a new pseudo-random integer value which is uniformly distributed between 0 (inclusively) and the value of `n` *(exclusively).*

- long long **nextLong** ()

  Generates a uniformly distributed 64-bit `int` *value from the this random number sequence.*

- virtual void **nextBytes** (std::vector< unsigned char > &buf)

  Modifies the byte array by a random sequence of bytes generated by this random number generator.

- virtual void **nextBytes** (unsigned char *buf, int size)

  Modifies the byte array by a random sequence of bytes generated by this random number generator.

- virtual void **setSeed** (unsigned long long seed)

  Modifies the seed using linear congruential formula presented in The Art of Computer Programming, Volume 2, Section 3.2.1.

Protected Member Functions

- virtual int **next** (int bits)

  Answers a pseudo-random uniformly distributed `int` *value of the number of bits specified by the argument* `bits` *as described by Donald E.*

6.495.1 Detailed Description

Random (p. 2506) Value Generator which is used to generate a stream of pseudorandom numbers. The algorithms implemented by class **Random** (p. 2506) use a protected utility method that on each invocation can supply up to 32 pseudorandomly generated bits.

Since:

1.0

6.495.2 Constructor & Destructor Documentation

6.495.2.1 decaf::util::Random::Random ()

Construct a random generator with the current time of day in milliseconds as the initial state.

See also:

setSeed (p. 2510)

6.495.2.2 decaf::util::Random::Random (unsigned long long *seed*)

Construct a random generator with the given `seed` as the initial state.

Parameters:

seed the seed that will determine the initial state of this random number generator

See also:

setSeed (p. 2510)

6.495.2.3 virtual decaf::util::Random::~Random () `[virtual]`

6.495.3 Member Function Documentation

6.495.3.1 virtual int decaf::util::Random::next (int *bits*) `[protected, virtual]`

Answers a pseudo-random uniformly distributed `int` value of the number of bits specified by the argument `bits` as described by Donald E. Knuth in *The Art of Computer Programming, Volume 2: Seminumerical Algorithms*, section 3.2.1.

Returns:

int a pseudo-random generated int number

Parameters:

bits number of bits of the returned value

See also:

nextBytes (p. 2508)
nextDouble (p. 2509)
nextFloat (p. 2509)
nextInt() (p. 2510)
nextInt(int) (p. 2509)
nextGaussian (p. 2509)
nextLong (p. 2510)

Reimplemented in **decaf::security::SecureRandom** (p. 2620).

6.495.3.2 bool decaf::util::Random::nextBoolean ()

Answers the next pseudo-random, uniformly distributed boolean value generated by this generator.

Returns:

boolean a pseudo-random, uniformly distributed boolean value

6.495.3.3 virtual void decaf::util::Random::nextBytes (unsigned char * *buf*, int *size*) [virtual]

Modifies the byte array by a random sequence of bytes generated by this random number generator.

Parameters:

buf non-null array to contain the new random bytes

See also:

next (p. 2507)

Exceptions:

NullPointerException if buff is NULL
IllegalArgumentException if size is negative

Reimplemented in **decaf::security::SecureRandom** (p. 2621).

6.495.3.4 virtual void decaf::util::Random::nextBytes (std::vector< unsigned char > & *buf*) [virtual]

Modifies the byte array by a random sequence of bytes generated by this random number generator.

Parameters:

buf non-null array to contain the new random bytes

See also:

next (p. 2507)

Reimplemented in **decaf::security::SecureRandom** (p. 2621).

6.495.3.5 double decaf::util::Random::nextDouble ()

Generates a normally distributed random double number between 0.0 inclusively and 1.0 exclusively.

Returns:

double

See also:

nextFloat (p. 2509)

6.495.3.6 float decaf::util::Random::nextFloat ()

Generates a normally distributed random float number between 0.0 inclusively and 1.0 exclusively.

Returns:

float a random float number between 0.0 and 1.0

See also:

nextDouble (p. 2509)

6.495.3.7 double decaf::util::Random::nextGaussian ()

Pseudo-randomly generates (approximately) a normally distributed `double` value with mean 0.0 and a standard deviation value of `1.0` using the *polar method* of G. E. P. Box, M. E. Muller, and G. Marsaglia, as described by Donald E. Knuth in *The Art of Computer Programming, Volume 2: Seminumerical Algorithms*, section 3.4.1, subsection C, algorithm P

Returns:

double

See also:

nextDouble (p. 2509)

6.495.3.8 int decaf::util::Random::nextInt (int *n*)

Returns to the caller a new pseudo-random integer value which is uniformly distributed between 0 (inclusively) and the value of `n` (exclusively).

Parameters:

n The int value that defines the max value of the return.

Returns:

the next pseudo random int value.

Exceptions:

IllegalArgumentException if n is less than or equal to zero.

6.495.3.9 int decaf::util::Random::nextInt ()

Generates a uniformly distributed 32-bit `int` value from the this random number sequence.

Returns:

int uniformly distributed `int` value

See also:

next (p. 2507)
nextLong (p. 2510)

6.495.3.10 long long decaf::util::Random::nextLong ()

Generates a uniformly distributed 64-bit `int` value from the this random number sequence.

Returns:

64-bit `int` random number

See also:

next (p. 2507)
nextInt() (p. 2510)
nextInt(int) (p. 2509)

6.495.3.11 virtual void decaf::util::Random::setSeed (unsigned long long *seed*) [virtual]

Modifies the seed using linear congruential formula presented in *The Art of Computer Programming, Volume 2*, Section 3.2.1.

Parameters:

seed the seed that alters the state of the random number generator

See also:

next (p. 2507)
Random() (p. 2507)
Random(long)

Reimplemented in **decaf::security::SecureRandom** (p. 2622).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Random.h**

6.496 decaf::lang::Readable Class Reference

A **Readable** (p. 2511) is a source of characters.

`#include <src/main/decaf/lang/Readable.h>`Inheritance diagram for decaf::lang::Readable:

Public Member Functions

- virtual ~**Readable** ()
- virtual int **read** (**decaf::nio::CharBuffer** *charBuffer)=0

  Attempts to read characters into the specified character buffer.

6.496.1 Detailed Description

A **Readable** (p. 2511) is a source of characters. Characters from a **Readable** (p. 2511) are made available to callers of the read method via a CharBuffer.

Since:

1.0

6.496.2 Constructor & Destructor Documentation

6.496.2.1 virtual decaf::lang::Readable::~Readable () `[virtual]`

6.496.3 Member Function Documentation

6.496.3.1 virtual int decaf::lang::Readable::read (decaf::nio::CharBuffer * *charBuffer*) `[pure virtual]`

Attempts to read characters into the specified character buffer. The buffer is used as a repository of characters as-is: the only changes made are the results of a put operation. No flipping or rewinding of the buffer is performed.

Parameters:

charBuffer The Buffer to read Characters into.

Returns:

The number of char values added to the buffer, or -1 if this source of characters is at its end

Exceptions:

IOException if an I/O error occurs.

NullPointerException if buffer is NULL.

ReadOnlyBufferException if charBuffer is a read only buffer.

Implemented in **decaf::io::Reader** (p. 2516).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Readable.h**

6.497 activemq::transport::inactivity::ReadChecker Class Reference

Runnable class that is used by the {.

`#include <src/main/activemq/transport/inactivity/ReadChecker.h>`Inheritance diagram for activemq::transport::inactivity::ReadChecker:

Public Member Functions

- **ReadChecker** (**InactivityMonitor** *parent)
- virtual ~**ReadChecker** ()
- virtual void **run** ()

  Run method - called by the Thread class in the context of the thread.

6.497.1 Detailed Description

Runnable class that is used by the {.

See also:

InactivityMonitor (p. 1653)} class the check for timeouts related to **transport** (p. 72) reads.

Since:

3.1

6.497.2 Constructor & Destructor Documentation

6.497.2.1 activemq::transport::inactivity::ReadChecker::ReadChecker (InactivityMonitor * *parent*)

6.497.2.2 virtual activemq::transport::inactivity::ReadChecker::~ReadChecker () [virtual]

6.497.3 Member Function Documentation

6.497.3.1 virtual void activemq::transport::inactivity::ReadChecker::run () [virtual]

Run method - called by the Thread class in the context of the thread.

Implements **decaf::lang::Runnable** (p. 2607).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/inactivity/**ReadChecker.h**

6.498 decaf::io::Reader Class Reference

`#include <src/main/decaf/io/Reader.h>`Inheritance diagram for decaf::io::Reader:

Public Member Functions

- virtual ~**Reader** ()
- virtual void **mark** (int readAheadLimit)

  Marks the present position in the stream.

- virtual bool **markSupported** () const

  *Tells whether this stream supports the **mark()** (p. 2516) operation.*

- virtual bool **ready** () const

  Tells whether this stream is ready to be read.

- virtual void **reset** ()

  Resets the stream.

- virtual long long **skip** (long long count)

  Skips characters.

- virtual int **read** (std::vector< char > &buffer)

  Reads characters into an array.

- virtual int **read** (char *buffer, int size)

  Reads characters into an array, the method will attempt to read as much data as the size of the array.

- virtual int **read** (char *buffer, int size, int offset, int length)

  Reads characters into a portion of an array.

- virtual int **read** ()

  Reads a single character.

- virtual int **read** (**decaf::nio::CharBuffer** *charBuffer)

  Attempts to read characters into the specified character buffer.

Protected Member Functions

- **Reader** ()
- virtual int **doReadArrayBounded** (char *buffer, int size, int offset, int length)=0

  Override this method to customize the functionality of the method read(unsigned char buffer, int size, int offset, int length).*

- virtual int **doReadVector** (std::vector< char > &buffer)

Override this method to customize the functionality of the method ***read(std::vector<char>& buffer)*** *(p. 2518).*

- virtual int **doReadArray** (char *buffer, int length)

  Override this method to customize the functionality of the method read(char buffer, std::size_t length).*

- virtual int **doReadChar** ()

  Override this method to customize the functionality of the method ***read()*** *(p. 2517).*

- virtual int **doReadCharBuffer** (**decaf::nio::CharBuffer** *charBuffer)

  Override this method to customize the functionality of the method read(CharBuffer charBuffer).*

6.498.1 Constructor & Destructor Documentation

6.498.1.1 decaf::io::Reader::Reader () [protected]

6.498.1.2 virtual decaf::io::Reader::~Reader () [virtual]

6.498.2 Member Function Documentation

6.498.2.1 virtual int decaf::io::Reader::doReadArray (char * *buffer*, int *length*) [protected, virtual]

Override this method to customize the functionality of the method read(char* buffer, std::size_t length).

6.498.2.2 virtual int decaf::io::Reader::doReadArrayBounded (char * *buffer*, int *size*, int *offset*, int *length*) [protected, pure virtual]

Override this method to customize the functionality of the method read(unsigned char* buffer, int size, int offset, int length). All subclasses must override this method to provide the basic **Reader** (p. 2514) functionality.

Implemented in **decaf::io::InputStreamReader** (p. 1705).

6.498.2.3 virtual int decaf::io::Reader::doReadChar () [protected, virtual]

Override this method to customize the functionality of the method **read()** (p. 2517).

6.498.2.4 virtual int decaf::io::Reader::doReadCharBuffer (decaf::nio::CharBuffer * *charBuffer*) [protected, virtual]

Override this method to customize the functionality of the method read(CharBuffer* charBuffer).

6.498.2.5 virtual int decaf::io::Reader::doReadVector (std::vector< char > & *buffer*) [protected, virtual]

Override this method to customize the functionality of the method **read(std::vector<char>& buffer)** (p. 2518).

6.498.2.6 virtual void decaf::io::Reader::mark (int *readAheadLimit*) [virtual]

Marks the present position in the stream. Subsequent calls to **reset()** (p. 2518) will attempt to reposition the stream to this point. Not all character-input streams support the **mark()** (p. 2516) operation.

Parameters:

readAheadLimit Limit on the number of characters that may be read while still preserving the mark. After reading this many characters, attempting to reset the stream may fail.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs, or the stream does not support mark.

6.498.2.7 virtual bool decaf::io::Reader::markSupported () const [inline, virtual]

Tells whether this stream supports the **mark()** (p. 2516) operation. The default implementation always returns false. Subclasses should override this method.

Returns:

true if and only if this stream supports the mark operation.

6.498.2.8 virtual int decaf::io::Reader::read (decaf::nio::CharBuffer * *charBuffer*) [virtual]

Attempts to read characters into the specified character buffer. The buffer is used as a repository of characters as-is: the only changes made are the results of a put operation. No flipping or rewinding of the buffer is performed.

Parameters:

charBuffer The Buffer to read Characters into.

Returns:

The number of char values added to the buffer, or -1 if this source of characters is at its end

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

NullPointerException if buffer is NULL.

ReadOnlyBufferException if charBuffer is a read only buffer.

Implements **decaf::lang::Readable** (p. 2511).

6.498.2.9 virtual int decaf::io::Reader::read () [virtual]

Reads a single character. This method will block until a character is available, an I/O error occurs, or the end of the stream is reached.

Subclasses that intend to support efficient single-character input should override this method.

Returns:

The character read, as an integer in the range 0 to 65535 (0x00-0xffff), or -1 if the end of the stream has been reached.

Exceptions:

IOException *(*p. *1774**)* thrown if an I/O error occurs.

6.498.2.10 virtual int decaf::io::Reader::read (char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Reads characters into a portion of an array. This method will block until some input is available, an I/O error occurs, or the end of the stream is reached.

Parameters:

buffer The target char buffer.

size The size in bytes of the target buffer.

offset The position in the buffer to start filling.

length The maximum number of bytes to read.

Returns:

The number of bytes read or -1 if the end of stream is reached.

Exceptions:

IOException *(*p. *1774**)* thrown if an I/O error occurs.

NullPointerException if buffer is NULL.

IndexOutOfBoundsException if the offset + length is greater than the array size.

6.498.2.11 virtual int decaf::io::Reader::read (char * *buffer*, int *size*) [virtual]

Reads characters into an array, the method will attempt to read as much data as the size of the array. This method will block until some input is available, an I/O error occurs, or the end of the stream is reached.

Parameters:

buffer The target char buffer.

size The size in bytes of the target buffer.

Returns:

The number of bytes read or -1 if the end of stream is reached.

Exceptions:

IOException *(p. 1774)* thrown if an I/O error occurs.

NullPointerException if buffer is NULL.

6.498.2.12 virtual int decaf::io::Reader::read (std::vector< char > & *buffer*) [virtual]

Reads characters into an array. This method will block until some input is available, an I/O error occurs, or the end of the stream is reached.

Parameters:

buffer The buffer to read characters into.

Returns:

The number of characters read, or -1 if the end of the stream has been reached

Exceptions:

IOException *(p. 1774)* thrown if an I/O error occurs.

6.498.2.13 virtual bool decaf::io::Reader::ready () const [virtual]

Tells whether this stream is ready to be read.

Returns:

True if the next **read()** (p. 2517) is guaranteed not to block for input, false otherwise. Note that returning false does not guarantee that the next read will block.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

Reimplemented in **decaf::io::InputStreamReader** (p. 1705).

6.498.2.14 virtual void decaf::io::Reader::reset () [virtual]

Resets the stream. If the stream has been marked, then attempt to reposition it at the mark. If the stream has not been marked, then attempt to reset it in some way appropriate to the particular stream, for example by repositioning it to its starting point. Not all character-input streams support the **reset()** (p. 2518) operation, and some support **reset()** (p. 2518) without supporting **mark()** (p. 2516).

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

6.498.2.15 virtual long long decaf::io::Reader::skip (long long *count*) [virtual]

Skips characters. This method will block until some characters are available, an I/O error occurs, or the end of the stream is reached.

Parameters:

count The number of character to skip.

Returns:

the number of Character actually skipped.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

The documentation for this class was generated from the following file:

- src/main/decaf/io/**Reader.h**

6.499 decaf::nio::ReadOnlyBufferException Class Reference

`#include <src/main/decaf/nio/ReadOnlyBufferException.h>`Inheritance diagram for decaf::nio::ReadOnlyBufferException:

Public Member Functions

- **ReadOnlyBufferException** ()

  Default Constructor.

- **ReadOnlyBufferException** (const **lang::Exception** &ex)

  Copy Constructor.

- **ReadOnlyBufferException** (const **ReadOnlyBufferException** &ex)

  Copy Constructor.

- **ReadOnlyBufferException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **ReadOnlyBufferException** (const std::exception *cause)

  Constructor.

- **ReadOnlyBufferException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor.

- virtual **ReadOnlyBufferException** * **clone** () const

  Clones this exception.

- virtual ~**ReadOnlyBufferException** () throw ()

6.499.1 Constructor & Destructor Documentation

6.499.1.1 decaf::nio::ReadOnlyBufferException::ReadOnlyBufferException ()

Default Constructor.

6.499.1.2 decaf::nio::ReadOnlyBufferException::ReadOnlyBufferException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.499.1.3 decaf::nio::ReadOnlyBufferException::ReadOnlyBufferException (const ReadOnlyBufferException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.499.1.4 decaf::nio::ReadOnlyBufferException::ReadOnlyBufferException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.499.1.5 decaf::nio::ReadOnlyBufferException::ReadOnlyBufferException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.499.1.6 decaf::nio::ReadOnlyBufferException::ReadOnlyBufferException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.499.1.7 virtual decaf::nio::ReadOnlyBufferException::~ReadOnlyBufferException () throw () [virtual]

6.499.2 Member Function Documentation

6.499.2.1 virtual ReadOnlyBufferException* decaf::nio::ReadOnlyBufferException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Reimplemented from **decaf::lang::exceptions::UnsupportedOperationException** (p. 3149).

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**ReadOnlyBufferException.h**

6.500 decaf::util::concurrent::locks::ReadWriteLock Class Reference

A **ReadWriteLock** (p. 2523) maintains a pair of associated **locks** (p. 133), one for read-only operations and one for writing.

`#include <src/main/decaf/util/concurrent/locks/ReadWriteLock.h>`Inheritance diagram for decaf::util::concurrent::locks::ReadWriteLock:

Public Member Functions

- virtual ~**ReadWriteLock** ()
- virtual **Lock** & **readLock** ()=0

  Returns the lock used for reading.

- virtual **Lock** & **writeLock** ()=0

  Returns the lock used for writing.

6.500.1 Detailed Description

A **ReadWriteLock** (p. 2523) maintains a pair of associated **locks** (p. 133), one for read-only operations and one for writing. The read lock may be held simultaneously by multiple reader threads, so long as there are no writers. The write lock is exclusive.

All **ReadWriteLock** (p. 2523) implementations must guarantee that the memory synchronization effects of writeLock operations (as specified in the **Lock** (p. 1913) interface) also hold with respect to the associated readLock. That is, a thread successfully acquiring the read lock will see all updates made upon previous release of the write lock.

A read-write lock allows for a greater level of concurrency in accessing shared data than that permitted by a mutual exclusion lock. It exploits the fact that while only a single thread at a time (a writer thread) can modify the shared data, in many cases any number of threads can concurrently read the data (hence reader threads). In theory, the increase in concurrency permitted by the use of a read-write lock will lead to performance improvements over the use of a mutual exclusion lock. In practice this increase in concurrency will only be fully realized on a multi-processor, and then only if the access patterns for the shared data are suitable.

Whether or not a read-write lock will improve performance over the use of a mutual exclusion lock depends on the frequency that the data is read compared to being modified, the duration of the read and write operations, and the contention for the data - that is, the number of threads that will try to read or write the data at the same time. For example, a collection that is initially populated with data and thereafter infrequently modified, while being frequently searched (such as a directory of some kind) is an ideal candidate for the use of a read-write lock. However, if updates become frequent then the data spends most of its time being exclusively locked and there is little, if any increase in concurrency. Further, if the read operations are too short the overhead of the read-write lock implementation (which is inherently more complex than a mutual exclusion lock) can dominate the execution cost, particularly as many read-write lock implementations still serialize all threads through a small section of **code** (p. 999). Ultimately, only profiling and measurement will establish whether the use of a read-write lock is suitable for your application.

Although the basic operation of a read-write lock is straight-forward, there are many policy decisions that an implementation must make, which may affect the effectiveness of the read-write lock in a given application. Examples of these policies include:

* Determining whether to grant the read lock or the write lock, when both readers and writers are waiting, at the time that a writer releases the write lock. Writer preference is common, as writes are expected to be short and infrequent. Reader preference is less common as it can lead to lengthy delays for a write if the readers are frequent and long-lived as expected. Fair, or "in-order" implementations are also possible. * Determining whether readers that request the read lock while a reader is active and a writer is waiting, are granted the read lock. Preference to the reader can delay the writer indefinitely, while preference to the writer can reduce the potential for concurrency. * Determining whether the **locks** (p. 133) are reentrant: can a thread with the write lock reacquire it? Can it acquire a read lock while holding the write lock? Is the read lock itself reentrant? * Can the write lock be downgraded to a read lock without allowing an intervening writer? Can a read lock be upgraded to a write lock, in preference to other waiting readers or writers?

You should consider all of these things when evaluating the suitability of a given implementation for your application.

Since:

1.0

6.500.2 Constructor & Destructor Documentation

6.500.2.1 virtual decaf::util::concurrent::locks::ReadWriteLock::~ReadWriteLock () [virtual]

6.500.3 Member Function Documentation

6.500.3.1 virtual Lock& decaf::util::concurrent::locks::ReadWriteLock::readLock () [pure virtual]

Returns the lock used for reading.

Returns:

the lock used for reading.

Implemented in **decaf::util::concurrent::locks::ReentrantReadWriteLock** (p. 2549).

6.500.3.2 virtual Lock& decaf::util::concurrent::locks::ReadWriteLock::writeLock () [pure virtual]

Returns the lock used for writing.

Returns:

the lock used for writing.

Implemented in **decaf::util::concurrent::locks::ReentrantReadWriteLock** (p. 2550).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/locks/**ReadWriteLock.h**

6.501 activemq::cmsutil::CmsTemplate::ReceiveExecutor Class Reference

`#include <src/main/activemq/cmsutil/CmsTemplate.h>`Inheritance diagram for activemq::cmsutil::CmsTemplate::ReceiveExecutor:

Public Member Functions

- **ReceiveExecutor** (**CmsTemplate** *parent, **cms::Destination** *destination, const std::string &**selector**, bool **noLocal**)
- virtual ~**ReceiveExecutor** ()
- virtual void **doInCms** (**cms::Session** *session)

  Execute any number of operations against the supplied CMS session.

- virtual **cms::Destination** * **getDestination** (**cms::Session** *session AMQCPP_UNUSED)
- **cms::Message** * **getMessage** ()

Protected Attributes

- **cms::Destination** * **destination**
- std::string **selector**
- bool **noLocal**
- **cms::Message** * **message**
- **CmsTemplate** * **parent**

6.501.1 Constructor & Destructor Documentation

6.501.1.1 activemq::cmsutil::CmsTemplate::ReceiveExecutor::ReceiveExecutor (CmsTemplate * *parent*, cms::Destination * *destination*, const std::string & *selector*, bool *noLocal*) [inline]

6.501.1.2 virtual activemq::cmsutil::CmsTemplate::ReceiveExecutor::~ReceiveExecutor () [inline, virtual]

6.501.2 Member Function Documentation

6.501.2.1 virtual void activemq::cmsutil::CmsTemplate::ReceiveExecutor::doInCms (cms::Session * *session*) [virtual]

Execute any number of operations against the supplied CMS session.

Parameters:

session the CMS `Session`

Exceptions:

CMSException if thrown by CMS API methods

Implements **activemq::cmsutil::SessionCallback** (p. 2679).

6.501.2.2 virtual cms::Destination* activemq::cmsutil::CmsTemplate::ReceiveExecutor::getDestination (cms::Session *session *AMQCPP_UNUSED*) [inline, virtual]

6.501.2.3 cms::Message* activemq::cmsutil::CmsTemplate::ReceiveExecutor::getMessage () [inline]

6.501.3 Field Documentation

6.501.3.1 cms::Destination* activemq::cmsutil::CmsTemplate::ReceiveExecutor::destination [protected]

6.501.3.2 cms::Message* activemq::cmsutil::CmsTemplate::ReceiveExecutor::message [protected]

6.501.3.3 bool activemq::cmsutil::CmsTemplate::ReceiveExecutor::noLocal [protected]

6.501.3.4 CmsTemplate* activemq::cmsutil::CmsTemplate::ReceiveExecutor::parent [protected]

6.501.3.5 std::string activemq::cmsutil::CmsTemplate::ReceiveExecutor::selector [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CmsTemplate.h**

6.502 activemq::core::RedeliveryPolicy Class Reference

Interface for a **RedeliveryPolicy** (p. 2527) object that controls how message Redelivery is handled in ActiveMQ-CPP when a transaction is rolled back.

`#include <src/main/activemq/core/RedeliveryPolicy.h>`Inheritance diagram for activemq::core::RedeliveryPolicy:

Public Member Functions

- virtual ~**RedeliveryPolicy** ()
- virtual double **getBackOffMultiplier** () const =0
- virtual void **setBackOffMultiplier** (double value)=0

  Sets the Back-Off Multiplier for Message Redelivery.

- virtual short **getCollisionAvoidancePercent** () const =0
- virtual void **setCollisionAvoidancePercent** (short value)=0
- virtual long long **getInitialRedeliveryDelay** () const =0

  Gets the initial time that redelivery of messages is delayed.

- virtual void **setInitialRedeliveryDelay** (long long value)=0

  Sets the initial time that redelivery will be delayed.

- virtual long long **getRedeliveryDelay** () const =0

  Gets the time that redelivery of messages is delayed.

- virtual void **setRedeliveryDelay** (long long value)=0

  Sets the time that redelivery will be delayed.

- virtual int **getMaximumRedeliveries** () const =0

  Gets the Maximum number of allowed redeliveries for a message before it will be discarded by the consumer.

- virtual void **setMaximumRedeliveries** (int maximumRedeliveries)=0

  Sets the Maximum allowable redeliveries for a Message.

- virtual long long **getNextRedeliveryDelay** (long long previousDelay)=0

  Given the last used redelivery delay calculate the next value of the delay based on the settings in this Policy instance.

- virtual bool **isUseCollisionAvoidance** () const =0
- virtual void **setUseCollisionAvoidance** (bool value)=0
- virtual bool **isUseExponentialBackOff** () const =0
- virtual void **setUseExponentialBackOff** (bool value)=0
- virtual **RedeliveryPolicy** * **clone** () const =0

  Create a copy of this Policy and return it.

- virtual void **configure** (const **decaf::util::Properties** &properties)

  Checks the supplied properties object for properties matching the configurable settings of this class.

Static Public Attributes

- static const long long **NO_MAXIMUM_REDELIVERIES**

Protected Member Functions

- **RedeliveryPolicy** ()

6.502.1 Detailed Description

Interface for a **RedeliveryPolicy** (p. 2527) object that controls how message Redelivery is handled in ActiveMQ-CPP when a transaction is rolled back.

Since:

3.2.0

6.502.2 Constructor & Destructor Documentation

6.502.2.1 activemq::core::RedeliveryPolicy::RedeliveryPolicy () [protected]

6.502.2.2 virtual activemq::core::RedeliveryPolicy::~RedeliveryPolicy () [virtual]

6.502.3 Member Function Documentation

6.502.3.1 virtual RedeliveryPolicy* activemq::core::RedeliveryPolicy::clone () const [pure virtual]

Create a copy of this Policy and return it.

Returns:

pointer to a new **RedeliveryPolicy** (p. 2527) that is a copy of this one.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1315).

6.502.3.2 virtual void activemq::core::RedeliveryPolicy::configure (const decaf::util::Properties & *properties*) [virtual]

Checks the supplied properties object for properties matching the configurable settings of this class. The default implementation looks for properties named with the prefix cms.RedeliveryPolicy.XXX where XXX is the name of a property with a public setter method. For instance cms.RedeliveryPolicy.useExponentialBackOff will be used to set the value of the use exponential back off toggle.

Subclasses can override this method to add more configuration options or to exclude certain parameters from being set via the properties object.

Parameters:

properties The Properties object used to configure this object.

Exceptions:

NumberFormatException if a property that is numeric cannot be converted

IllegalArgumentException if a property can't be converted to the correct type.

6.502.3.3 virtual double activemq::core::RedeliveryPolicy::getBackOffMultiplier () const [pure virtual]

Returns:

The value of the Back-Off Multiplier for Message Redelivery.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1315).

6.502.3.4 virtual short activemq::core::RedeliveryPolicy::getCollisionAvoidancePercent () const [pure virtual]

Returns:

the currently set Collision Avoidance percentage.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1315).

6.502.3.5 virtual long long activemq::core::RedeliveryPolicy::getInitialRedeliveryDelay () const [pure virtual]

Gets the initial time that redelivery of messages is delayed.

Returns:

the time in milliseconds that redelivery is delayed initially.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1315).

6.502.3.6 virtual int activemq::core::RedeliveryPolicy::getMaximumRedeliveries () const [pure virtual]

Gets the Maximum number of allowed redeliveries for a message before it will be discarded by the consumer.

Returns:

maximum allowed redeliveries for a message.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1316).

6.502.3.7 virtual long long activemq::core::RedeliveryPolicy::getNextRedeliveryDelay (long long *previousDelay*) [pure virtual]

Given the last used redelivery delay calculate the next value of the delay based on the settings in this Policy instance.

Parameters:

previousDelay The last delay that was used between message redeliveries.

Returns:

the new delay to use before attempting another redelivery.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1316).

6.502.3.8 virtual long long activemq::core::RedeliveryPolicy::getRedeliveryDelay () const [pure virtual]

Gets the time that redelivery of messages is delayed.

Returns:

the time in milliseconds that redelivery is delayed.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1316).

6.502.3.9 virtual bool activemq::core::RedeliveryPolicy::isUseCollisionAvoidance () const [pure virtual]

Returns:

whether or not collision avoidance is enabled for this Policy.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1316).

6.502.3.10 virtual bool activemq::core::RedeliveryPolicy::isUseExponentialBackOff () const [pure virtual]

Returns:

whether or not the exponential back off option is enabled.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1317).

6.502.3.11 virtual void activemq::core::RedeliveryPolicy::setBackOffMultiplier (double *value*) [pure virtual]

Sets the Back-Off Multiplier for Message Redelivery.

Parameters:

value The new value for the back-off multiplier.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1317).

6.502.3.12 virtual void activemq::core::RedeliveryPolicy::setCollisionAvoidancePercent (short *value*) [pure virtual]

Parameters:

value The collision avoidance percentage setting.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1317).

6.502.3.13 virtual void activemq::core::RedeliveryPolicy::setInitialRedeliveryDelay (long long *value*) [pure virtual]

Sets the initial time that redelivery will be delayed.

Parameters:

value Time in Milliseconds to wait before starting redelivery.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1317).

6.502.3.14 virtual void activemq::core::RedeliveryPolicy::setMaximumRedeliveries (int *maximumRedeliveries*) [pure virtual]

Sets the Maximum allowable redeliveries for a Message.

Parameters:

maximumRedeliveries The maximum number of times that a message will be redelivered.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1317).

6.502.3.15 virtual void activemq::core::RedeliveryPolicy::setRedeliveryDelay (long long *value*) [pure virtual]

Sets the time that redelivery will be delayed.

Parameters:

value Time in Milliseconds to wait before the next redelivery.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1318).

6.502.3.16 virtual void activemq::core::RedeliveryPolicy::setUseCollisionAvoidance (bool *value*) [pure virtual]

Parameters:

value Enable or Disable collision avoidance for this Policy.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1318).

6.502.3.17 virtual void activemq::core::RedeliveryPolicy::setUseExponentialBackOff (bool *value*) [pure virtual]

Parameters:

value Enable or Disable the exponential back off multiplier option.

Implemented in **activemq::core::policies::DefaultRedeliveryPolicy** (p. 1318).

6.502.4 Field Documentation

6.502.4.1 const long long activemq::core::RedeliveryPolicy::NO_MAXIMUM_REDELIVERIES [static]

The documentation for this class was generated from the following file:

- src/main/activemq/core/**RedeliveryPolicy.h**

6.503 decaf::util::concurrent::locks::ReentrantLock Class Reference

A reentrant mutual exclusion **Lock** (p. 1913) with extended capabilities.

`#include <src/main/decaf/util/concurrent/locks/ReentrantLock.h>`Inheritance diagram for decaf::util::concurrent::locks::ReentrantLock:

Public Member Functions

- **ReentrantLock** ()

  *Create a new **ReentrantLock** (p. 2533) instance with unfair locking semantics.*

- **ReentrantLock** (bool fair)

  *Create a new **ReentrantLock** (p. 2533) instance with the specified locking semantics.*

- virtual ~**ReentrantLock** ()
- virtual void **lock** ()

  Acquires the lock.

- virtual void **lockInterruptibly** ()

  Acquires the lock unless the current thread is interrupted.

- virtual bool **tryLock** ()

  Acquires the lock only if it is not held by another thread at the time of invocation.

- virtual bool **tryLock** (long long time, const **TimeUnit** &unit)

  Acquires the lock if it is not held by another thread within the given waiting time and the current thread has not been interrupted.

- virtual void **unlock** ()

  Attempts to release this lock.

- virtual **Condition** * **newCondition** ()

  *Returns a **Condition** (p. 1071) instance for use with this **Lock** (p. 1913) instance.*

- int **getHoldCount** () const

  Queries the number of holds on this lock by the current thread.

- bool **isHeldByCurrentThread** () const

  Queries if this lock is held by the current thread.

- bool **isLocked** () const

  Queries if this lock is held by any thread.

- bool **isFair** () const

  Returns true if this lock has fairness set true.

- std::string **toString** () const

  Returns a string identifying this lock, as well as its lock state.

- int **getQueueLength** () const

  Gets an estimated count of the number of threads that are currently waiting to acquire, this value changes dynamically so the result of this method can be invalid immediately after it is called.

- int **getWaitQueueLength** (**Condition** *condition) const

  *Gets an estimated count of the number of threads that are currently waiting on the given **Condition** (p. 1071) object, this value changes dynamically so the result of this method can be invalid immediately after it is called.*

- bool **hasWaiters** (**Condition** *condition) const

  *Returns true if there are any threads that are currently waiting on the given **Condition** (p. 1071) object, the condition must be associated with this **Lock** (p. 1913) instance.*

- bool **hasQueuedThreads** () const
- bool **hasQueuedThread** (**decaf::lang::Thread** *thread) const

Protected Member Functions

- **decaf::util::Collection< decaf::lang::Thread * > * getWaitingThreads** (**Condition** *condition) const

  *Creates and returns a new **Collection** (p. 1000) object that contains all the threads that may be waiting on the given **Condition** (p. 1071) object instance at the time this method is called.*

- **decaf::lang::Thread** * **getOwner** () const

  Returns the thread that currently owns this lock, or NULL if not owned.

- **decaf::util::Collection< decaf::lang::Thread * > * getQueuedThreads** () const

  *Creates and returns a new **Collection** (p. 1000) object that contains a best effort snapshot of the threads that are currently waiting to acquire.*

6.503.1 Detailed Description

A reentrant mutual exclusion **Lock** (p. 1913) with extended capabilities. A **ReentrantLock** (p. 2533) is owned by the thread last successfully locking, but not yet unlocking it. A thread invoking lock will return, successfully acquiring the lock, when the lock is not owned by another thread. The method will return immediately if the current thread already owns the lock. This can be checked using methods **isHeldByCurrentThread()** (p. 2538), and **getHoldCount()** (p. 2535).

The constructor for this class accepts an optional fairness parameter. When set true, under contention, **locks** (p. 133) favor granting access to the longest-waiting thread. Otherwise this lock does not guarantee any particular access order. Programs using fair **locks** (p. 133) accessed by many threads may display lower overall throughput (i.e., are slower; often much slower) than those using the default setting, but have smaller variances in times to obtain **locks** (p. 133) and guarantee lack of starvation. Note however, that fairness of **locks** (p. 133) does not guarantee fairness of thread scheduling. Thus, one of many threads using a fair lock may obtain it multiple times in succession while other active threads are not progressing and not currently holding the

lock. Also note that the untimed tryLock method does not honor the fairness setting. It will succeed if the lock is available even if other threads are waiting.

It is recommended practice to always immediately follow a call to lock with a try block, most typically in a before/after construction such as:

class X { private:

ReentrantLock (p. 2533) lock; // ...

public:

void m() { lock.lock(); // block until condition holds

try { // ... method body } finally { lock.unlock() } } }

In addition to implementing the **Lock** (p. 1913) interface, this class defines methods isLocked and getLockQueueLength, as well as some associated protected access methods that may be useful for instrumentation and monitoring.

Since:

1.0

6.503.2 Constructor & Destructor Documentation

6.503.2.1 decaf::util::concurrent::locks::ReentrantLock::ReentrantLock ()

Create a new **ReentrantLock** (p. 2533) instance with unfair locking semantics.

6.503.2.2 decaf::util::concurrent::locks::ReentrantLock::ReentrantLock (bool *fair*)

Create a new **ReentrantLock** (p. 2533) instance with the specified locking semantics.

Parameters:

fair Boolean value indicating if the lock should be fair or not.

6.503.2.3 virtual decaf::util::concurrent::locks::ReentrantLock::~ReentrantLock () [virtual]

6.503.3 Member Function Documentation

6.503.3.1 int decaf::util::concurrent::locks::ReentrantLock::getHoldCount () const

Queries the number of holds on this lock by the current thread. A thread has a hold on a lock for each lock action that is not matched by an unlock action.

The hold count information is typically only used for testing and debugging purposes. For example, if a certain section of **code** (p. 999) should not be entered with the lock already held then we can assert that fact:

class X { private:

ReentrantLock (p. 2533) lock; // ...

public:

void m() { assert(lock.getHoldCount() == 0); lock.lock(); try { // ... method body } catch(...) { lock.unlock(); } } }

Returns:

the number of holds on this lock by the current thread, or zero if this lock is not held by the current thread

6.503.3.2 decaf::lang::Thread* decaf::util::concurrent::locks::ReentrantLock::getOwner () const [protected]

Returns the thread that currently owns this lock, or NULL if not owned. When this method is called by a thread that is not the owner, the return value reflects a best-effort approximation of current lock status. For example, the owner may be momentarily NULL even if there are threads trying to acquire the lock but have not yet done so. This method is designed to facilitate construction of subclasses that provide more extensive lock monitoring facilities.

Returns:

pointer to the Thread that owns this lock, or NULL if not owned.

6.503.3.3 decaf::util::Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::ReentrantLock::getQueuedThreads () const [protected]

Creates and returns a new **Collection** (p. 1000) object that contains a best effort snapshot of the threads that are currently waiting to acquire.

Returns:

a **Collection** (p. 1000) pointer that contains waiting threads for lock acquisition. The caller owns the returned pointer.

6.503.3.4 int decaf::util::concurrent::locks::ReentrantLock::getQueueLength () const

Gets an estimated count of the number of threads that are currently waiting to acquire, this value changes dynamically so the result of this method can be invalid immediately after it is called.

Returns:

an estimate of the number of waiting threads.

6.503.3.5 decaf::util::Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::ReentrantLock::getWaitingThreads (Condition * *condition*) const [protected]

Creates and returns a new **Collection** (p. 1000) object that contains all the threads that may be waiting on the given **Condition** (p. 1071) object instance at the time this method is called.

Returns:

a **Collection** (p. 1000) pointer that contains waiting threads on given **Condition** (p. 1071) object. The caller owns the returned pointer.

Exceptions:

NullPointerException if the ConditionObject pointer is NULL.

IllegalArgumentException if the ConditionObject is not associated with this Synchronizer.

IllegalMonitorStateException if the caller does not hold exclusive synchronization.

6.503.3.6 int decaf::util::concurrent::locks::ReentrantLock::getWaitQueueLength (Condition * *condition*) const

Gets an estimated count of the number of threads that are currently waiting on the given **Condition** (p. 1071) object, this value changes dynamically so the result of this method can be invalid immediately after it is called. The **Condition** (p. 1071) object must be associated with this **Lock** (p. 1913) or an exception will be thrown.

Returns:

an estimate of the number of waiting threads.

Exceptions:

NullPointerException if the ConditionObject pointer is NULL.

IllegalArgumentException if the ConditionObject is not associated with this Synchronizer.

IllegalMonitorStateException if the caller does not hold exclusive synchronization.

6.503.3.7 bool decaf::util::concurrent::locks::ReentrantLock::hasQueuedThread (decaf::lang::Thread * *thread*) const

Returns:

true if the given Thread is waiting to acquire this **Lock** (p. 1913) object. Because of cancellations this method can return true but the given Thread is not in the **Queue** (p. 2500) afterwards.

Exceptions:

NullPointerException if the given thread is NULL.

6.503.3.8 bool decaf::util::concurrent::locks::ReentrantLock::hasQueuedThreads () const

Returns:

true if there are threads that are currently waiting to acquire this **Lock** (p. 1913).

6.503.3.9 bool decaf::util::concurrent::locks::ReentrantLock::hasWaiters (Condition * *condition*) const

Returns true if there are any threads that are currently waiting on the given **Condition** (p. 1071) object, the condition must be associated with this **Lock** (p. 1913) instance.

Returns:

true if the condition object has waiting threads.

Exceptions:

NullPointerException if the ConditionObject pointer is NULL.

IllegalArgumentException if the ConditionObject is not associated with this **Lock** (p. 1913).

IllegalMonitorStateException if the caller does not hold exclusive synchronization.

6.503.3.10 bool decaf::util::concurrent::locks::ReentrantLock::isFair () const

Returns true if this lock has fairness set true.

Returns:

true if this lock has fairness set true

6.503.3.11 bool decaf::util::concurrent::locks::ReentrantLock::isHeldByCurrentThread () const

Queries if this lock is held by the current thread. This method is typically used for debugging and testing. For example, a method that should only be called while a lock is held can assert that this is the case:

class X { private: **ReentrantLock** (p. 2533) lock; // ...

public: void m() { assert(lock.isHeldByCurrentThread()); // ... method body } }

It can also be used to ensure that a reentrant lock is used in a non-reentrant manner, for example:

class X { private: **ReentrantLock** (p. 2533) lock; // ...

public: void m() { assert !lock.**isHeldByCurrentThread()** (p. 2538); lock.lock(); try { // ... method body } finally { lock.unlock(); } } }

Returns:

true if current thread holds this lock and false otherwise

6.503.3.12 bool decaf::util::concurrent::locks::ReentrantLock::isLocked () const

Queries if this lock is held by any thread. This method is designed for use in monitoring of the system state, not for synchronization control.

Returns:

true if any thread holds this lock and false otherwise

6.503.3.13 virtual void decaf::util::concurrent::locks::ReentrantLock::lock () [virtual]

Acquires the lock. Acquires the lock if it is not held by another thread and returns immediately, setting the lock hold count to one.

If the current thread already holds the lock then the hold count is incremented by one and the method returns immediately.

If the lock is held by another thread then the current thread becomes disabled for thread scheduling purposes and lies dormant until the lock has been acquired, at which time the lock hold count is set to one.

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

Implements **decaf::util::concurrent::locks::Lock** (p. 1914).

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::drainTo(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::peek(), and decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::poll().

6.503.3.14 virtual void decaf::util::concurrent::locks::ReentrantLock::lockInterruptibly () [virtual]

Acquires the lock unless the current thread is interrupted. Acquires the lock if it is not held by another thread and returns immediately, setting the lock hold count to one.

If the current thread already holds this lock then the hold count is incremented by one and the method returns immediately.

If the lock is held by another thread then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of two things happens:

∗ The lock is acquired by the current thread; or ∗ Some other thread interrupts the current thread.

If the lock is acquired by the current thread then the lock hold count is set to one.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while acquiring the lock,

then InterruptedException is thrown and the current thread's interrupted status is cleared.

In this implementation, as this method is an explicit interruption point, preference is given to responding to the interrupt over normal or reentrant acquisition of the lock.

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

InterruptedException if the current thread is interrupted while acquiring the lock (and interruption of lock acquisition is supported).

Implements **decaf::util::concurrent::locks::Lock** (p. 1915).

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::offer(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::poll(),

decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::put(), and decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::take().

6.503.3.15 virtual Condition* decaf::util::concurrent::locks::ReentrantLock::newCondition () [virtual]

Returns a **Condition** (p. 1071) instance for use with this **Lock** (p. 1913) instance. The returned **Condition** (p. 1071) instance supports the same usages as do the **Mutex** (p. 2223) Class' methods (wait, notify, and notifyAll).

* If this lock is not held when any of the **Condition** (p. 1071) waiting or signalling methods are called, then an IllegalMonitorStateException is thrown. * When the condition waiting methods are called the lock is released and, before they return, the lock is reacquired and the lock hold count restored to what it was when the method was called. * If a thread is interrupted while waiting then the wait will terminate, an InterruptedException will be thrown, and the thread's interrupted status will be cleared. * Waiting threads are signaled in FIFO order. * The ordering of lock reacquisition for threads returning from waiting methods is the same as for threads initially acquiring the lock, which is in the default case not specified, but for fair **locks** (p. 133) favors those threads that have been waiting the longest.

Exceptions:

RuntimeException if an error occurs while creating the **Condition** (p. 1071).

UnsupportedOperationException if this **Lock** (p. 1913) implementation does not support conditions

Implements **decaf::util::concurrent::locks::Lock** (p. 1916).

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::LinkedBlockingQueue().

6.503.3.16 std::string decaf::util::concurrent::locks::ReentrantLock::toString () const [virtual]

Returns a string identifying this lock, as well as its lock state. The state, in brackets, includes either the String "Unlocked" or the String "Locked by" followed by the name of the owning thread.

Returns:

a string identifying this lock, as well as its lock state

Implements **decaf::util::concurrent::locks::Lock** (p. 1916).

6.503.3.17 virtual bool decaf::util::concurrent::locks::ReentrantLock::tryLock (long long *time*, const TimeUnit & *unit*) [virtual]

Acquires the lock if it is not held by another thread within the given waiting time and the current thread has not been interrupted. Acquires the lock if it is not held by another thread and returns immediately with the value true, setting the lock hold count to one. If this lock has been set to use a fair ordering policy then an available lock will not be acquired if any other threads are waiting for the lock. This is in contrast to the **tryLock()** (p. 2541) method. If you want a timed tryLock that does permit barging on a fair lock then combine the timed and un-timed forms together:

if (lock.tryLock() || lock.tryLock(timeout, unit)) { ... }

If the current thread already holds this lock then the hold count is incremented by one and the method returns true.

If the lock is held by another thread then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of three things happens:

∗ The lock is acquired by the current thread; or ∗ Some other thread interrupts the current thread; or ∗ The specified waiting time elapses

If the lock is acquired then the value true is returned and the lock hold count is set to one.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while acquiring the lock,

then InterruptedException is thrown and the current thread's interrupted status is cleared.

If the specified waiting time elapses then the value false is returned. If the time is less than or equal to zero, the method will not wait at all.

In this implementation, as this method is an explicit interruption point, preference is given to responding to the interrupt over normal or reentrant acquisition of the lock, and over reporting the elapse of the waiting time.

Parameters:

time the maximum time to wait for the lock

unit the time unit of the time argument

Returns:

true if the lock was acquired and false if the waiting time elapsed before the lock was acquired

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

InterruptedException if the current thread is interrupted while acquiring the lock (and interruption of lock acquisition is supported)

Implements **decaf::util::concurrent::locks::Lock** (p. 1916).

6.503.3.18 virtual bool decaf::util::concurrent::locks::ReentrantLock::tryLock () [virtual]

Acquires the lock only if it is not held by another thread at the time of invocation. Acquires the lock if it is not held by another thread and returns immediately with the value true, setting the lock hold count to one. Even when this lock has been set to use a fair ordering policy, a call to **tryLock()** (p. 2541) will immediately acquire the lock if it is available, whether or not other threads are currently waiting for the lock. This "barging" behavior can be useful in certain circumstances, even though it breaks fairness. If you want to honor the fairness setting for this lock, then use tryLock(0, **TimeUnit.SECONDS** (p. 3079)) which is almost equivalent (it also detects interruption).

If the current thread already holds this lock then the hold count is incremented by one and the method returns true.

If the lock is held by another thread then this method will return immediately with the value false.

Returns:

true if the lock was acquired and false otherwise

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

Implements **decaf::util::concurrent::locks::Lock** (p. 1917).

6.503.3.19 virtual void decaf::util::concurrent::locks::ReentrantLock::unlock () [virtual]

Attempts to release this lock. If the current thread is the holder of this lock then the hold count is decremented. If the hold count is now zero then the lock is released. If the current thread is not the holder of this lock then IllegalMonitorStateException is thrown.

Exceptions:

RuntimeException if an error occurs while acquiring the lock.

Implements **decaf::util::concurrent::locks::Lock** (p. 1918).

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::drainTo(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::offer(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::peek(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::poll(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::put(), and decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::take().

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/locks/**ReentrantLock.h**

6.504 decaf::util::concurrent::locks::ReentrantReadWriteLock Class Reference

`#include <src/main/decaf/util/concurrent/locks/ReentrantReadWriteLock.h>`Inheritance diagram for decaf::util::concurrent::locks::ReentrantReadWriteLock:

Public Member Functions

- **ReentrantReadWriteLock** ()

  *Creates a new **ReentrantReadWriteLock** (p. 2543) with the default ordering property of Not-Fair.*

- **ReentrantReadWriteLock** (bool fair)

  *Creates a new **ReentrantReadWriteLock** (p. 2543) with the given fairness policy.*

- virtual ~**ReentrantReadWriteLock** ()
- virtual **decaf::util::concurrent::locks::Lock** & **readLock** ()

  Returns the lock used for reading.
  Returns:

  the lock used for reading.

- virtual **decaf::util::concurrent::locks::Lock** & **writeLock** ()

  Returns the lock used for writing.
  Returns:

  the lock used for writing.

- bool **isFair** () const

  Returns true if this lock has fairness set true.

- int **getReadLockCount** () const

  *Queries the number of read **locks** (p. 133) held for this lock.*

- bool **isWriteLocked** () const

  Queries if the write lock is held by any thread.

- bool **isWriteLockedByCurrentThread** () const

  Queries if the write lock is held by the current thread.

- int **getWriteHoldCount** () const

  Queries the number of reentrant write holds on this lock by the current thread.

- int **getReadHoldCount** () const

  Queries the number of reentrant read holds on this lock by the current thread.

- bool **hasWaiters** (**Condition** *condition) const

  Queries whether any threads are waiting on the given condition associated with the write lock.

- int **getWaitQueueLength** (**Condition** *condition) const

  Gets an estimated count of the number of threads that are currently waiting on the given ***Condition*** *(p. 1071) object, this value changes dynamically so the result of this method can be invalid immediately after it is called.*

- std::string **toString** () const

  Returns a string identifying this lock, as well as its lock state.

- bool **hasQueuedThreads** () const

  Queries whether any threads are waiting to acquire the read or write lock.

- bool **hasQueuedThread** (**decaf::lang::Thread** *thread) const

  Queries whether the given thread is waiting to acquire either the read or write lock.

- int **getQueueLength** () const

  Returns an estimate of the number of threads waiting to acquire either the read or write lock.

Protected Member Functions

- **decaf::util::Collection< decaf::lang::Thread * > * getWaitingThreads** (**Condition** *condition) const

  Creates and returns a new ***Collection*** *(p. 1000) object that contains all the threads that may be waiting on the given* ***Condition*** *(p. 1071) object instance at the time this method is called.*

- **decaf::util::Collection< decaf::lang::Thread * > * getQueuedThreads** () const

  Returns a collection containing threads that may be waiting to acquire either the read or write lock.

- **decaf::util::Collection< decaf::lang::Thread * > * getQueuedWriterThreads** () const

  Returns a collection containing threads that may be waiting to acquire the write lock.

- **decaf::util::Collection< decaf::lang::Thread * > * getQueuedReaderThreads** () const

  Returns a collection containing threads that may be waiting to acquire the read lock.

- **decaf::lang::Thread** * **getOwner** () const

  Returns the thread that currently owns the write lock, or NULL if not owned.

6.504.1 Detailed Description

Since:

1.0

6.504.2 Constructor & Destructor Documentation

6.504.2.1 decaf::util::concurrent::locks::ReentrantReadWriteLock::ReentrantReadWriteLock ()

Creates a new **ReentrantReadWriteLock** (p. 2543) with the default ordering property of Not-Fair.

6.504.2.2 decaf::util::concurrent::locks::ReentrantReadWriteLock::ReentrantReadWriteLock (bool *fair*)

Creates a new **ReentrantReadWriteLock** (p. 2543) with the given fairness policy.

Parameters:

fair Boolean value indicating whether this lock uses a fair or non-fair policy.

6.504.2.3 virtual decaf::util::concurrent::locks::ReentrantReadWriteLock::~ReentrantReadWriteLock () [virtual]

6.504.3 Member Function Documentation

6.504.3.1 decaf::lang::Thread* decaf::util::concurrent::locks::ReentrantReadWriteLock::getOwner () const [protected]

Returns the thread that currently owns the write lock, or NULL if not owned. When this method is called by a thread that is not the owner, the return value reflects a best-effort approximation of current lock status. For example, the owner may be momentarily NULL even if there are threads trying to acquire the lock but have not yet done so. This method is designed to facilitate construction of subclasses that provide more extensive lock monitoring facilities.

Returns:

the owner thread pointer, or NULL if not currently owned.

6.504.3.2 decaf::util::Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::ReentrantReadWriteLock::getQueuedReaderThreads () const [protected]

Returns a collection containing threads that may be waiting to acquire the read lock. Because the actual set of threads may change dynamically while constructing this result, the returned collection is only a best-effort estimate. The elements of the returned collection are in no particular order. This method is designed to facilitate construction of subclasses that provide more extensive lock monitoring facilities.

Returns:

the collection of threads

6.504.3.3 decaf::util::Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::ReentrantReadWriteLock::getQueuedThreads () const [protected]

Returns a collection containing threads that may be waiting to acquire either the read or write lock. Because the actual set of threads may change dynamically while constructing this result, the returned collection is only a best-effort estimate. The elements of the returned collection are in no particular order. This method is designed to facilitate construction of subclasses that provide more extensive monitoring facilities.

Returns:

the collection of threads

6.504.3.4 decaf::util::Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::ReentrantReadWriteLock::getQueuedWriterThreads () const [protected]

Returns a collection containing threads that may be waiting to acquire the write lock. Because the actual set of threads may change dynamically while constructing this result, the returned collection is only a best-effort estimate. The elements of the returned collection are in no particular order. This method is designed to facilitate construction of subclasses that provide more extensive lock monitoring facilities.

Returns:

the collection of threads

6.504.3.5 int decaf::util::concurrent::locks::ReentrantReadWriteLock::getQueueLength () const

Returns an estimate of the number of threads waiting to acquire either the read or write lock. The value is only an estimate because the number of threads may change dynamically while this method traverses **internal** (p. 96) data structures. This method is designed for use in monitoring of the system state, not for synchronization control.

Returns:

the estimated number of threads waiting for this lock

6.504.3.6 int decaf::util::concurrent::locks::ReentrantReadWriteLock::getReadHoldCount () const

Queries the number of reentrant read holds on this lock by the current thread. A reader thread has a hold on a lock for each lock action that is not matched by an unlock action.

Returns:

the number of holds on the read lock by the current thread, or zero if the read lock is not held by the current thread

6.504.3.7 int decaf::util::concurrent::locks::ReentrantReadWriteLock::getReadLockCount () const

Queries the number of read **locks** (p. 133) held for this lock. This method is designed for use in monitoring system state, not for synchronization control.

Returns:

the number of read **locks** (p. 133) held.

6.504.3.8 decaf::util::Collection<decaf::lang::Thread*>* decaf::util::concurrent::locks::ReentrantReadWriteLock::getWaitingThreads (Condition * *condition*) const [protected]

Creates and returns a new **Collection** (p. 1000) object that contains all the threads that may be waiting on the given **Condition** (p. 1071) object instance at the time this method is called.

Returns:

a **Collection** (p. 1000) pointer that contains waiting threads on given **Condition** (p. 1071) object. The caller owns the returned pointer.

Exceptions:

NullPointerException if the ConditionObject pointer is NULL.

IllegalArgumentException if the ConditionObject is not associated with this Synchronizer.

IllegalMonitorStateException if the caller does not hold exclusive synchronization.

6.504.3.9 int decaf::util::concurrent::locks::ReentrantReadWriteLock::getWaitQueueLength (Condition * *condition*) const

Gets an estimated count of the number of threads that are currently waiting on the given **Condition** (p. 1071) object, this value changes dynamically so the result of this method can be invalid immediately after it is called. The **Condition** (p. 1071) object must be associated with this **Lock** (p. 1913) or an exception will be thrown.

Returns:

an estimate of the number of waiting threads.

Exceptions:

NullPointerException if the ConditionObject pointer is NULL.

IllegalArgumentException if the ConditionObject is not associated with this Synchronizer.

IllegalMonitorStateException if the caller does not hold exclusive synchronization.

6.504.3.10 int decaf::util::concurrent::locks::ReentrantReadWriteLock::getWriteHoldCount () const

Queries the number of reentrant write holds on this lock by the current thread. A writer thread has a hold on a lock for each lock action that is not matched by an unlock action.

Returns:

the number of holds on the write lock by the current thread, or zero if the write lock is not held by the current thread

6.504.3.11 bool decaf::util::concurrent::locks::ReentrantReadWriteLock::hasQueuedThread (decaf::lang::Thread * *thread*) const

Queries whether the given thread is waiting to acquire either the read or write lock. Note that because cancellations may occur at any time, a true return does not guarantee that this thread will ever acquire a lock. This method is designed primarily for use in monitoring of the system state.

Parameters:

thread The thread that will be queried for.

Returns:

true if the given thread is queued waiting for this lock

Exceptions:

NullPointerException if the thread is NULL.

6.504.3.12 bool decaf::util::concurrent::locks::ReentrantReadWriteLock::hasQueuedThreads () const

Queries whether any threads are waiting to acquire the read or write lock. Note that because cancellations may occur at any time, a true return does not guarantee that any other thread will ever acquire a lock. This method is designed primarily for use in monitoring of the system state.

Returns:

if there may be other threads waiting to acquire the lock

6.504.3.13 bool decaf::util::concurrent::locks::ReentrantReadWriteLock::hasWaiters (Condition * *condition*) const

Queries whether any threads are waiting on the given condition associated with the write lock. Note that because timeouts and interrupts may occur at any time, a true return does not guarantee that a future signal will awaken any threads. This method is designed primarily for use in monitoring of the system state.

Parameters:

condition The condition to be queried for waiters.

Returns:

true if there are any waiting threads

Exceptions:

NullPointerException if the ConditionObject pointer is NULL.

IllegalArgumentException if the ConditionObject is not associated with this **Lock** (p. 1913).

IllegalMonitorStateException if the caller does not hold exclusive synchronization.

6.504.3.14 bool decaf::util::concurrent::locks::ReentrantReadWriteLock::isFair () const

Returns true if this lock has fairness set true.

Returns:

true if the **Lock** (p. 1913) uses a fair policy otherwise false.

6.504.3.15 bool decaf::util::concurrent::locks::ReentrantReadWriteLock::isWriteLocked () const

Queries if the write lock is held by any thread. This method is designed for use in monitoring system state, not for synchronization control.

Returns:

true if any thread holds the write lock and false otherwise

6.504.3.16 bool decaf::util::concurrent::locks::ReentrantReadWriteLock::isWriteLockedByCurrentThread () const

Queries if the write lock is held by the current thread.

Returns:

true if the current thread holds the write lock and false otherwise

6.504.3.17 virtual decaf::util::concurrent::locks::Lock& decaf::util::concurrent::locks::ReentrantReadWriteLock::readLock () [virtual]

Returns the lock used for reading.

Returns:

the lock used for reading.

Implements **decaf::util::concurrent::locks::ReadWriteLock** (p. 2524).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::contains(), decaf::util::concurrent::CopyOnWriteArrayList< E >::get(), decaf::util::concurrent::CopyOnWriteArrayList< E >::indexOf(), decaf::util::concurrent::CopyOnWriteArrayList< E >::isEmpty(), decaf::util::concurrent::CopyOnWriteArrayList< E >::iterator(), decaf::util::concurrent::CopyOnWriteArrayList< E >::lastIndexOf(), decaf::util::concurrent::CopyOnWriteArrayList< E >::listIterator(), decaf::util::concurrent::CopyOnWriteArrayList< E >::size(), decaf::util::concurrent::CopyOnWriteArrayList< E >::toArray(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::toString().

6.504.3.18 std::string decaf::util::concurrent::locks::ReentrantReadWriteLock::toString () const

Returns a string identifying this lock, as well as its lock state. The state, in brackets, includes the String "Write locks =" followed by the number of reentrantly held write **locks** (p. 133), and the String "Read locks =" followed by the number of held read **locks** (p. 133).

Returns:

a string identifying this lock, as well as its lock state

6.504.3.19 virtual decaf::util::concurrent::locks::Lock& decaf::util::concurrent::locks::ReentrantReadWriteLock::writeLock () [virtual]

Returns the lock used for writing.

Returns:

the lock used for writing.

Implements **decaf::util::concurrent::locks::ReadWriteLock** (p. 2524).

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::add(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addIfAbsent(), decaf::util::concurrent::CopyOnWriteArrayList< E >::clear(), decaf::util::concurrent::CopyOnWriteArrayList< E >::copy(), decaf::util::concurrent::CopyOnWriteArrayList< E >::CopyOnWriteArrayList(), decaf::util::concurrent::CopyOnWriteArrayList< E >::lock(), decaf::util::concurrent::CopyOnWriteArrayList< E >::operator=(), decaf::util::concurrent::CopyOnWriteArrayList< E >::remove(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::removeAt(), decaf::util::concurrent::CopyOnWriteArrayList< E >::retainAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::set(),

decaf::util::concurrent::CopyOnWriteArrayList< E >::tryLock(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::unlock().

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/locks/**ReentrantReadWriteLock.h**

6.505 decaf::util::concurrent::RejectedExecutionException Class Reference

`#include <src/main/decaf/util/concurrent/RejectedExecutionException.h>`Inheritance diagram for decaf::util::concurrent::RejectedExecutionException:

Public Member Functions

- **RejectedExecutionException** ()
  Default Constructor.
- **RejectedExecutionException** (const Exception &ex)
  Conversion Constructor from some other Exception.
- **RejectedExecutionException** (const **RejectedExecutionException** &ex)
  Copy Constructor.
- **RejectedExecutionException** (const std::exception *cause)
  Constructor.
- **RejectedExecutionException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **RejectedExecutionException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **RejectedExecutionException** * **clone** () const
  Clones this exception.
- virtual ~**RejectedExecutionException** () throw ()

6.505.1 Constructor & Destructor Documentation

6.505.1.1 decaf::util::concurrent::RejectedExecutionException::RejectedExecutionException ()

Default Constructor.

6.505.1.2 decaf::util::concurrent::RejectedExecutionException::RejectedExecutionException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.505.1.3 decaf::util::concurrent::RejectedExecutionException::RejectedExecutionException (const RejectedExecutionException & *ex*)

Copy Constructor.

Parameters:

ex - The Exception to copy in this new instance.

6.505.1.4 decaf::util::concurrent::RejectedExecutionException::RejectedExecutionException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.505.1.5 decaf::util::concurrent::RejectedExecutionException::RejectedExecutionException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file - The file name where exception occurs

lineNumber - The line number where the exception occurred.

msg - The message to report

... - list of primitives that are formatted into the message

6.505.1.6 decaf::util::concurrent::RejectedExecutionException::RejectedExecutionException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file - The file name where exception occurs

lineNumber - The line number where the exception occurred.

cause - The exception that was the cause for this one to be thrown.

msg - The message to report

... - list of primitives that are formatted into the message

6.505.1.7 virtual decaf::util::concurrent::RejectedExecutionException::~RejectedExecutionException () throw () [virtual]

6.505.2 Member Function Documentation

6.505.2.1 virtual RejectedExecutionException* decaf::util::concurrent::RejectedExecutionException::clone () const [virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A new instance this exception type with a copy the current state.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**RejectedExecutionException.h**

6.506 decaf::util::concurrent::RejectedExecutionHandler Class Reference

A handler for tasks that cannot be executed by a **ThreadPoolExecutor** (p. 3031).

`#include <src/main/decaf/util/concurrent/RejectedExecutionHandler.h>`Inheritance diagram for decaf::util::concurrent::RejectedExecutionHandler:

Public Member Functions

- **RejectedExecutionHandler** ()
- virtual ~**RejectedExecutionHandler** ()
- virtual void **rejectedExecution** (**decaf::lang::Runnable** *r, **ThreadPoolExecutor** *executer)=0

  *Method that may be invoked by a **ThreadPoolExecutor** (p. 3031) when **execute** (p. 3039) cannot accept a task.*

6.506.1 Detailed Description

A handler for tasks that cannot be executed by a **ThreadPoolExecutor** (p. 3031).

Since:

1.0

6.506.2 Constructor & Destructor Documentation

6.506.2.1 decaf::util::concurrent::RejectedExecutionHandler::RejectedExecutionHandler ()

6.506.2.2 virtual decaf::util::concurrent::RejectedExecutionHandler::~RejectedExecutionHandler () `[virtual]`

6.506.3 Member Function Documentation

6.506.3.1 virtual void decaf::util::concurrent::RejectedExecutionHandler::rejectedExecution (decaf::lang::Runnable * *r*, ThreadPoolExecutor * *executer*) `[pure virtual]`

Method that may be invoked by a **ThreadPoolExecutor** (p. 3031) when **execute** (p. 3039) cannot accept a task. This may occur when no more threads or queue slots are available because their bounds would be exceeded, or upon shutdown of the **Executor** (p. 1463).

In the absence of other alternatives, the method may throw an **RejectedExecutionException** (p. 2552), which will be propagated to the caller of **execute** (p. 3039).

Parameters:

r The pointer to the runnable task requested to be executed.

executor The pointer to the executor attempting to execute this task.

Exceptions:

RejectedExecutionException *(*p. *2552)* if there is no remedy.

Implemented in **decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy** (p. 1389).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**RejectedExecutionHandler.h**

6.507 activemq::commands::RemoveInfo Class Reference

`#include <src/main/activemq/commands/RemoveInfo.h>`Inheritance diagram for activemq::commands::RemoveInfo:

Public Member Functions

- **RemoveInfo** ()
- virtual ~**RemoveInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **RemoveInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **DataStructure** > & **getObjectId** () const
- virtual **Pointer**< **DataStructure** > & **getObjectId** ()
- virtual void **setObjectId** (const **Pointer**< **DataStructure** > &**objectId**)
- virtual long long **getLastDeliveredSequenceId** () const
- virtual void **setLastDeliveredSequenceId** (long long **lastDeliveredSequenceId**)
- virtual bool **isRemoveInfo** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_REMOVEINFO** = 12

Protected Attributes

- **Pointer**< **DataStructure** > **objectId**
- long long **lastDeliveredSequenceId**

6.507.1 Constructor & Destructor Documentation

6.507.1.1 activemq::commands::RemoveInfo::RemoveInfo ()

6.507.1.2 virtual activemq::commands::RemoveInfo::~RemoveInfo () [virtual]

6.507.2 Member Function Documentation

6.507.2.1 virtual RemoveInfo* activemq::commands::RemoveInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.507.2.2 virtual void activemq::commands::RemoveInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.507.2.3 virtual bool activemq::commands::RemoveInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.507.2.4 virtual unsigned char activemq::commands::RemoveInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.507.2.5 virtual long long activemq::commands::RemoveInfo::getLastDeliveredSequenceId () const [virtual]

6.507.2.6 virtual Pointer<DataStructure>& activemq::commands::RemoveInfo::getObjectId () [virtual]

6.507.2.7 virtual const Pointer<DataStructure>& activemq::commands::RemoveInfo::getObjectId () const [virtual]

6.507.2.8 virtual bool activemq::commands::RemoveInfo::isRemoveInfo () const [inline, virtual]

Returns:

an answer of true to the **isRemoveInfo()** (p. 2559) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 633).

6.507.2.9 virtual void activemq::commands::RemoveInfo::setLastDeliveredSequenceId (long long *lastDeliveredSequenceId*) [virtual]

6.507.2.10 virtual void activemq::commands::RemoveInfo::setObjectId (const Pointer< DataStructure > & *objectId*) [virtual]

6.507.2.11 virtual std::string activemq::commands::RemoveInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.507.2.12 virtual Pointer<Command> activemq::commands::RemoveInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.507.3 Field Documentation

6.507.3.1 const unsigned char activemq::commands::RemoveInfo::ID_REMOVEINFO = 12 [static]

6.507.3.2 long long activemq::commands::RemoveInfo::lastDeliveredSequenceId [protected]

6.507.3.3 Pointer<DataStructure> activemq::commands::RemoveInfo::objectId [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**RemoveInfo.h**

6.508 activemq::wireformat::openwire::marshal::generated::RemoveInfoM Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **RemoveInfoMarshaller** (p. 2561).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/RemoveInfoMarshaller.h>`Inherita
diagram for activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller:

Public Member Functions

- **RemoveInfoMarshaller** ()
- virtual ~**RemoveInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.508.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **RemoveInfoMarshaller** (p. 2561). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.508.2 Constructor & Destructor Documentation

6.508.2.1 activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller::RemoveInfoM () [inline]

6.508.2.2 virtual activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller::~RemoveInfo () [inline, virtual]

6.508.3 Member Function Documentation

6.508.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.508.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller::getDataStructu () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.508.3.3 virtual void activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.508.3.4 virtual void activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller::looseUnmarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.508.3.5 virtual int activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.508.3.6 virtual void activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.508.3.7 virtual void activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller::tightUnmarsha (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**RemoveInfoMarshaller.h**

6.509 activemq::commands::RemoveSubscriptionInfo Class Reference

`#include <src/main/activemq/commands/RemoveSubscriptionInfo.h>`Inheritance diagram for activemq::commands::RemoveSubscriptionInfo:

Public Member Functions

- **RemoveSubscriptionInfo** ()
- virtual ~**RemoveSubscriptionInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **RemoveSubscriptionInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **ConnectionId** > & **getConnectionId** () const
- virtual **Pointer**< **ConnectionId** > & **getConnectionId** ()
- virtual void **setConnectionId** (const **Pointer**< **ConnectionId** > &**connectionId**)
- virtual const std::string & **getSubcriptionName** () const
- virtual std::string & **getSubcriptionName** ()
- virtual void **setSubcriptionName** (const std::string &**subcriptionName**)
- virtual const std::string & **getClientId** () const
- virtual std::string & **getClientId** ()
- virtual void **setClientId** (const std::string &**clientId**)
- virtual bool **isRemoveSubscriptionInfo** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_REMOVESUBSCRIPTIONINFO** = 9

Protected Attributes

- **Pointer**< **ConnectionId** > **connectionId**
- std::string **subcriptionName**
- std::string **clientId**

6.509.1 Constructor & Destructor Documentation

6.509.1.1 activemq::commands::RemoveSubscriptionInfo::RemoveSubscriptionInfo ()

6.509.1.2 virtual activemq::commands::RemoveSubscriptionInfo::~RemoveSubscriptionInfo () [virtual]

6.509.2 Member Function Documentation

6.509.2.1 virtual RemoveSubscriptionInfo* activemq::commands::RemoveSubscriptionInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.509.2.2 virtual void activemq::commands::RemoveSubscriptionInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.509.2.3 virtual bool activemq::commands::RemoveSubscriptionInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.509.2.4 virtual std::string& activemq::commands::RemoveSubscriptionInfo::getClientId () [virtual]

6.509.2.5 virtual const std::string& activemq::commands::RemoveSubscriptionInfo::getClientId () const [virtual]

6.509.2.6 virtual Pointer<ConnectionId>& activemq::commands::RemoveSubscriptionInfo::getConnectionId () [virtual]

6.509.2.7 virtual const Pointer<ConnectionId>& activemq::commands::RemoveSubscriptionInfo::getConnectionId () const [virtual]

6.509.2.8 virtual unsigned char activemq::commands::RemoveSubscriptionInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.509.2.9 virtual std::string& activemq::commands::RemoveSubscriptionInfo::getSubcriptionName () [virtual]

6.509.2.10 virtual const std::string& activemq::commands::RemoveSubscriptionInfo::getSubcriptionName () const [virtual]

6.509.2.11 virtual bool activemq::commands::RemoveSubscriptionInfo::isRemoveSubscriptionInfo () const [inline, virtual]

Returns:

an answer of true to the **isRemoveSubscriptionInfo()** (p. 2567) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 633).

6.509.2.12 virtual void activemq::commands::RemoveSubscriptionInfo::setClientId (const std::string & *clientId*) [virtual]

6.509.2.13 virtual void activemq::commands::RemoveSubscriptionInfo::setConnectionId (const Pointer< ConnectionId > & *connectionId*) [virtual]

6.509.2.14 virtual void activemq::commands::RemoveSubscriptionInfo::setSubcriptionName (const std::string & *subcriptionName*) [virtual]

6.509.2.15 virtual std::string activemq::commands::RemoveSubscriptionInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.509.2.16 virtual Pointer<Command> activemq::commands::RemoveSubscriptionInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.509.3 Field Documentation

6.509.3.1 std::string activemq::commands::RemoveSubscriptionInfo::clientId [protected]

6.509.3.2 Pointer<ConnectionId> activemq::commands::RemoveSubscriptionInfo::connectionId [protected]

6.509.3.3 const unsigned char activemq::commands::RemoveSubscriptionInfo::ID_REMOVESUBSCRIPTIONINFO = 9 [static]

6.509.3.4 std::string activemq::commands::RemoveSubscriptionInfo::subcriptionName [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**RemoveSubscriptionInfo.h**

6.510 activemq::wireformat::openwire::marshal::generated::RemoveSubs Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **RemoveSubscriptionInfoMarshaller** (p. 2570).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/RemoveSubscriptionInfoMarshall`
diagram for activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller:

Public Member Functions

- **RemoveSubscriptionInfoMarshaller** ()
- virtual ~**RemoveSubscriptionInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.510.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **RemoveSubscriptionInfoMarshaller** (p. 2570). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.510.2 Constructor & Destructor Documentation

6.510.2.1 activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller::I () [inline]

6.510.2.2 virtual activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller::~ () [inline, virtual]

6.510.3 Member Function Documentation

6.510.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller::cre () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.510.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller::get () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.510.3.3 virtual void activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller::loo (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.510.3.4 virtual void activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller::loo (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.510.3.5 virtual int activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller::tig (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.510.3.6 virtual void activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller::tig (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.510.3.7 virtual void activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller::tig (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**RemoveSubscriptionInfoMarshaller.h**

6.511 activemq::commands::ReplayCommand Class Reference

`#include <src/main/activemq/commands/ReplayCommand.h>`Inheritance diagram for activemq::commands::ReplayCommand:

Public Member Functions

- **ReplayCommand** ()
- virtual ~**ReplayCommand** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ReplayCommand** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual int **getFirstNakNumber** () const
- virtual void **setFirstNakNumber** (int **firstNakNumber**)
- virtual int **getLastNakNumber** () const
- virtual void **setLastNakNumber** (int **lastNakNumber**)
- virtual bool **isReplayCommand** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_REPLAYCOMMAND** = 65

Protected Attributes

- int **firstNakNumber**
- int **lastNakNumber**

6.511.1 Constructor & Destructor Documentation

6.511.1.1 activemq::commands::ReplayCommand::ReplayCommand ()

6.511.1.2 virtual activemq::commands::ReplayCommand::~ReplayCommand () [virtual]

6.511.2 Member Function Documentation

6.511.2.1 virtual ReplayCommand* activemq::commands::ReplayCommand::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.511.2.2 virtual void activemq::commands::ReplayCommand::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.511.2.3 virtual bool activemq::commands::ReplayCommand::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.511.2.4 virtual unsigned char activemq::commands::ReplayCommand::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.511.2.5 virtual int activemq::commands::ReplayCommand::getFirstNakNumber () const [virtual]

6.511.2.6 virtual int activemq::commands::ReplayCommand::getLastNakNumber () const [virtual]

6.511.2.7 virtual bool activemq::commands::ReplayCommand::isReplayCommand () const [inline, virtual]

Returns:

an answer of true to the **isReplayCommand()** (p. 2576) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 633).

6.511.2.8 virtual void activemq::commands::ReplayCommand::setFirstNakNumber (int *firstNakNumber*) [virtual]

6.511.2.9 virtual void activemq::commands::ReplayCommand::setLastNakNumber (int *lastNakNumber*) [virtual]

6.511.2.10 virtual std::string activemq::commands::ReplayCommand::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.511.2.11 virtual Pointer<Command> activemq::commands::ReplayCommand::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.511.3 Field Documentation

6.511.3.1 int activemq::commands::ReplayCommand::firstNakNumber [protected]

6.511.3.2 const unsigned char activemq::commands::ReplayCommand::ID_REPLAYCOMMAND = 65 [static]

6.511.3.3 int activemq::commands::ReplayCommand::lastNakNumber [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ReplayCommand.h**

6.512 activemq::wireformat::openwire::marshal::generated::ReplayComm Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ReplayCommandMarshaller** (p. 2578).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ReplayCommandMarshaller.h>`Inhe
diagram for activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller:

Public Member Functions

- **ReplayCommandMarshaller** ()
- virtual ~**ReplayCommandMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.512.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ReplayCommandMarshaller** (p. 2578). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.512.2 Constructor & Destructor Documentation

6.512.2.1 activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller::ReplayC () [inline]

6.512.2.2 virtual activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller::~Replay () [inline, virtual]

6.512.3 Member Function Documentation

6.512.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller::createObj () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.512.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller::getDataSt () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.512.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller::looseMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.512.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller::looseUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.512.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.512.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.512.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller::tightUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ReplayCommandMarshaller.h**

6.513 activemq::cmsutil::CmsTemplate::ResolveProducerExecutor Class Reference

`#include <src/main/activemq/cmsutil/CmsTemplate.h>`Inheritance diagram for activemq::cmsutil::CmsTemplate::ResolveProducerExecutor:

Public Member Functions

- **ResolveProducerExecutor** (**ProducerCallback** ∗**action**, **CmsTemplate** ∗**parent**, const std::string &destinationName)
- virtual ∼**ResolveProducerExecutor** ()
- virtual **cms::Destination** ∗ **getDestination** (**cms::Session** ∗session)

6.513.1 Constructor & Destructor Documentation

6.513.1.1 activemq::cmsutil::CmsTemplate::ResolveProducerExecutor::ResolveProducerExecutor (ProducerCallback ∗ *action*, CmsTemplate ∗ *parent*, const std::string & *destinationName*) [inline]

6.513.1.2 virtual activemq::cmsutil::CmsTemplate::ResolveProducerExecutor::∼ResolveProducerExecutor () [inline, virtual]

6.513.2 Member Function Documentation

6.513.2.1 virtual cms::Destination∗ activemq::cmsutil::CmsTemplate::ResolveProducerExecutor::getDestination (cms::Session ∗ *session*) [virtual]

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CmsTemplate.h**

6.514 activemq::cmsutil::CmsTemplate::ResolveReceiveExecutor Class Reference

`#include <src/main/activemq/cmsutil/CmsTemplate.h>`Inheritance diagram for activemq::cmsutil::CmsTemplate::ResolveReceiveExecutor:

Public Member Functions

- **ResolveReceiveExecutor** (**CmsTemplate** ∗**parent**, const std::string &**selector**, bool **noLocal**, const std::string &destinationName)
- virtual ∼**ResolveReceiveExecutor** ()
- virtual **cms::Destination** ∗ **getDestination** (**cms::Session** ∗session)

6.514.1 Constructor & Destructor Documentation

6.514.1.1 activemq::cmsutil::CmsTemplate::ResolveReceiveExecutor::ResolveReceiveExecutor (CmsTemplate ∗ *parent*, const std::string & *selector*, bool *noLocal*, const std::string & *destinationName*) `[inline]`

6.514.1.2 virtual activemq::cmsutil::CmsTemplate::ResolveReceiveExecutor::∼ResolveReceiveExecutor () `[inline, virtual]`

6.514.2 Member Function Documentation

6.514.2.1 virtual cms::Destination∗ activemq::cmsutil::CmsTemplate::ResolveReceiveExecutor::getDestination (cms::Session ∗ *session*) `[virtual]`

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CmsTemplate.h**

6.515 decaf::internal::util::Resource Class Reference

Interface for all Managed Resources in Decaf, these objects are added to the Runtime System and are destroyed at shutdown.

`#include <src/main/decaf/internal/util/Resource.h>`Inheritance diagram for decaf::internal::util::Resource:

Public Member Functions

- virtual ~**Resource** ()

6.515.1 Detailed Description

Interface for all Managed Resources in Decaf, these objects are added to the Runtime System and are destroyed at shutdown.

Since:

1.0

6.515.2 Constructor & Destructor Documentation

6.515.2.1 virtual decaf::internal::util::Resource::~Resource () `[virtual]`

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/**Resource.h**

6.516 cms::ResourceAllocationException Class Reference

This exception is thrown when an operation is invalid because a transaction is in progress.

`#include <src/main/cms/ResourceAllocationException.h>`Inheritance diagram for cms::ResourceAllocationException:

Public Member Functions

- **ResourceAllocationException** ()
- **ResourceAllocationException** (const **ResourceAllocationException** &ex)
- **ResourceAllocationException** (const std::string &message)
- **ResourceAllocationException** (const std::string &message, const std::exception *cause)
- **ResourceAllocationException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**ResourceAllocationException** () throw ()
- virtual **ResourceAllocationException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.516.1 Detailed Description

This exception is thrown when an operation is invalid because a transaction is in progress. For instance, an attempt to call **Session::commit** (p. 2669) when a session is part of a distributed transaction should throw a **ResourceAllocationException** (p. 2585).

Since:

2.3

6.516.2 Constructor & Destructor Documentation

6.516.2.1 cms::ResourceAllocationException::ResourceAllocationException ()

6.516.2.2 cms::ResourceAllocationException::ResourceAllocationException (const ResourceAllocationException & *ex*)

6.516.2.3 cms::ResourceAllocationException::ResourceAllocationException (const std::string & *message*)

6.516.2.4 cms::ResourceAllocationException::ResourceAllocationException (const std::string & *message*, const std::exception * *cause*)

6.516.2.5 cms::ResourceAllocationException::ResourceAllocationException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.516.2.6 virtual cms::ResourceAllocationException::~ResourceAllocationException () throw () [virtual]

6.516.3 Member Function Documentation

6.516.3.1 virtual ResourceAllocationException* cms::ResourceAllocationException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**ResourceAllocationException.h**

6.517 activemq::cmsutil::ResourceLifecycleManager Class Reference

Manages the lifecycle of a set of CMS resources.

`#include <src/main/activemq/cmsutil/ResourceLifecycleManager.h>`

Public Member Functions

- **ResourceLifecycleManager** ()
- virtual ~**ResourceLifecycleManager** ()

  Destructor - calls `destroy`.

- void **addConnection** (**cms::Connection** *connection)

  Adds a connection so that its life will be managed by this object.

- void **addSession** (**cms::Session** *session)

  Adds a session so that its life will be managed by this object.

- void **addDestination** (**cms::Destination** *dest)

  Adds a destination so that its life will be managed by this object.

- void **addMessageProducer** (**cms::MessageProducer** *producer)

  Adds a message producer so that its life will be managed by this object.

- void **addMessageConsumer** (**cms::MessageConsumer** *consumer)

  Adds a message consumer so that its life will be managed by this object.

- void **destroy** ()

  Closes and destroys the contained CMS resources.

- void **releaseAll** ()

  Releases all of the contained resources so that this object will no longer control their lifetimes.

Protected Member Functions

- **ResourceLifecycleManager** (const **ResourceLifecycleManager** &)
- **ResourceLifecycleManager** & **operator**= (const **ResourceLifecycleManager** &)

6.517.1 Detailed Description

Manages the lifecycle of a set of CMS resources. A call to `destroy` will close and destroy all of the contained resources in the appropriate manner.

6.517.2 Constructor & Destructor Documentation

6.517.2.1 activemq::cmsutil::ResourceLifecycleManager::ResourceLifecycleManager (const ResourceLifecycleManager &) [protected]

6.517.2.2 activemq::cmsutil::ResourceLifecycleManager::ResourceLifecycleManager ()

6.517.2.3 virtual activemq::cmsutil::ResourceLifecycleManager::~ResourceLifecycleManager () [virtual]

Destructor - calls `destroy`.

6.517.3 Member Function Documentation

6.517.3.1 void activemq::cmsutil::ResourceLifecycleManager::addConnection (cms::Connection * *connection*)

Adds a connection so that its life will be managed by this object.

Parameters:

connection the object to be managed

Exceptions:

CMSException if an error occurs while performing this operation.

6.517.3.2 void activemq::cmsutil::ResourceLifecycleManager::addDestination (cms::Destination * *dest*)

Adds a destination so that its life will be managed by this object.

Parameters:

dest the object to be managed

Exceptions:

CMSException if an error occurs while performing this operation.

6.517.3.3 void activemq::cmsutil::ResourceLifecycleManager::addMessageConsumer (cms::MessageConsumer * *consumer*)

Adds a message consumer so that its life will be managed by this object.

Parameters:

consumer the object to be managed

Exceptions:

CMSException if an error occurs while performing this operation.

6.517.3.4 void activemq::cmsutil::ResourceLifecycleManager::addMessageProducer (cms::MessageProducer * *producer*)

Adds a message producer so that its life will be managed by this object.

Parameters:

producer the object to be managed

Exceptions:

CMSException if an error occurs while performing this operation.

6.517.3.5 void activemq::cmsutil::ResourceLifecycleManager::addSession (cms::Session * *session*)

Adds a session so that its life will be managed by this object.

Parameters:

session the object to be managed

Exceptions:

CMSException if an error occurs while performing this operation.

6.517.3.6 void activemq::cmsutil::ResourceLifecycleManager::destroy ()

Closes and destroys the contained CMS resources.

Exceptions:

cms::CMSException *(*p. *973)* thrown if an error occurs.

6.517.3.7 ResourceLifecycleManager& activemq::cmsutil::ResourceLifecycleManager::operator= (const ResourceLifecycleManager &) [protected]

6.517.3.8 void activemq::cmsutil::ResourceLifecycleManager::releaseAll ()

Releases all of the contained resources so that this object will no longer control their lifetimes.

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**ResourceLifecycleManager.h**

6.518 decaf::internal::util::ResourceLifecycleManager Class Reference

`#include <src/main/decaf/internal/util/ResourceLifecycleManager.h>`

Public Member Functions

- **ResourceLifecycleManager** ()
- virtual ~**ResourceLifecycleManager** ()
- virtual void **addResource** (**Resource** *value)

Protected Member Functions

- virtual void **destroyResources** ()

6.518.1 Detailed Description

Since:

1.0

6.518.2 Constructor & Destructor Documentation

6.518.2.1 decaf::internal::util::ResourceLifecycleManager::ResourceLifecycleManager ()

6.518.2.2 virtual decaf::internal::util::ResourceLifecycleManager::~ResourceLifecycleManager () [virtual]

6.518.3 Member Function Documentation

6.518.3.1 virtual void decaf::internal::util::ResourceLifecycleManager::addResource (Resource * *value*) [virtual]

6.518.3.2 virtual void decaf::internal::util::ResourceLifecycleManager::destroyResources () [protected, virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/**ResourceLifecycleManager.h**

6.519 activemq::commands::Response Class Reference

`#include <src/main/activemq/commands/Response.h>`Inheritance diagram for activemq::commands::Response:

Public Member Functions

- **Response** ()
- virtual ~**Response** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **Response** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual int **getCorrelationId** () const
- virtual void **setCorrelationId** (int **correlationId**)
- virtual bool **isResponse** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_RESPONSE** = 30

Protected Attributes

- int **correlationId**

6.519.1 Constructor & Destructor Documentation

6.519.1.1 activemq::commands::Response::Response ()

6.519.1.2 virtual activemq::commands::Response::~Response () [virtual]

6.519.2 Member Function Documentation

6.519.2.1 virtual Response* activemq::commands::Response::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

Reimplemented in **activemq::commands::DataArrayResponse** (p. 1233), **activemq::commands::DataResponse** (p. 1275), **activemq::commands::ExceptionResponse** (p. 1454), and **activemq::commands::IntegerResponse** (p. 1741).

6.519.2.2 virtual void activemq::commands::Response::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

Reimplemented in **activemq::commands::DataArrayResponse** (p. 1233), **activemq::commands::DataResponse** (p. 1275), **activemq::commands::ExceptionResponse** (p. 1454), and **activemq::commands::IntegerResponse** (p. 1741).

6.519.2.3 virtual bool activemq::commands::Response::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

Reimplemented in **activemq::commands::DataArrayResponse** (p. 1233), **activemq::commands::DataResponse** (p. 1275), **activemq::commands::ExceptionResponse** (p. 1454), and **activemq::commands::IntegerResponse** (p. 1741).

6.519.2.4 virtual int activemq::commands::Response::getCorrelationId () const [virtual]

6.519.2.5 virtual unsigned char activemq::commands::Response::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

Reimplemented in **activemq::commands::DataArrayResponse** (p. 1233), **activemq::commands::DataResponse** (p. 1275), **activemq::commands::ExceptionResponse** (p. 1454), and **activemq::commands::IntegerResponse** (p. 1741).

6.519.2.6 virtual bool activemq::commands::Response::isResponse () const [inline, virtual]

Returns:

an answer of true to the **isResponse()** (p. 2593) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 633).

6.519.2.7 virtual void activemq::commands::Response::setCorrelationId (int *correlationId*) [virtual]

6.519.2.8 virtual std::string activemq::commands::Response::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

Reimplemented in **activemq::commands::DataArrayResponse** (p. 1234), **activemq::commands::DataResponse** (p. 1276), **activemq::commands::ExceptionResponse** (p. 1455), and **activemq::commands::IntegerResponse** (p. 1742).

6.519.2.9 virtual Pointer<Command> activemq::commands::Response::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.519.3 Field Documentation

6.519.3.1 int activemq::commands::Response::correlationId [protected]

6.519.3.2 const unsigned char activemq::commands::Response::ID_RESPONSE = 30 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**Response.h**

6.520 activemq::transport::mock::ResponseBuilder Class Reference

Interface for all Protocols to implement that defines the behavior of the Broker in response to messages of that protocol.

`#include <src/main/activemq/transport/mock/ResponseBuilder.h>`Inheritance diagram for activemq::transport::mock::ResponseBuilder:

Public Member Functions

- virtual ~**ResponseBuilder** ()
- virtual **Pointer< Response >** **buildResponse** (const **Pointer< Command >** command)=0

  Given a Command, check if it requires a response and return the appropriate Response that the Broker would send for this Command.

- virtual void **buildIncomingCommands** (const **Pointer< Command >** command, **decaf::util::LinkedList< Pointer< Command > >** &queue)=0

  *When called the **ResponseBuilder** (p. 2595) must construct all the Responses or Asynchronous **commands** (p. 61) that would be sent to this client by the Broker upon receipt of the passed command.*

6.520.1 Detailed Description

Interface for all Protocols to implement that defines the behavior of the Broker in response to messages of that protocol.

6.520.2 Constructor & Destructor Documentation

6.520.2.1 virtual activemq::transport::mock::ResponseBuilder::~ResponseBuilder () `[virtual]`

6.520.3 Member Function Documentation

6.520.3.1 virtual void activemq::transport::mock::ResponseBuilder::buildIncomingCommands (const Pointer< Command > *command*, decaf::util::LinkedList< Pointer< Command > > & *queue*) `[pure virtual]`

When called the **ResponseBuilder** (p. 2595) must construct all the Responses or Asynchronous **commands** (p. 61) that would be sent to this client by the Broker upon receipt of the passed command.

Parameters:

command - The Command being sent to the Broker.

queue - Queue of Command sent back from the broker.

Implemented in **activemq::wireformat::openwire::OpenWireResponseBuilder** (p. 2328).

6.520.3.2 virtual Pointer<Response> activemq::transport::mock::ResponseBuilder::buildResponse (const Pointer< Command > *command*) [pure virtual]

Given a Command, check if it requires a response and return the appropriate Response that the Broker would send for this Command.

Parameters:

command - The command to build a response for

Returns:

A Response object pointer, or NULL if no response.

Implemented in **activemq::wireformat::openwire::OpenWireResponseBuilder** (p. 2329).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/mock/**ResponseBuilder.h**

6.521 activemq::transport::ResponseCallback Class Reference

Allows an async send to complete at a later time via a Response event.

`#include <src/main/activemq/transport/ResponseCallback.h>`

Public Member Functions

- **ResponseCallback** ()
- virtual ~**ResponseCallback** ()
- virtual void **onComplete** (**decaf::lang::Pointer**< **commands::Response** > response)=0

  When an Asynchronous operations completes this event is fired.

6.521.1 Detailed Description

Allows an async send to complete at a later time via a Response event.

6.521.2 Constructor & Destructor Documentation

6.521.2.1 activemq::transport::ResponseCallback::ResponseCallback ()

6.521.2.2 virtual activemq::transport::ResponseCallback::~ResponseCallback () [virtual]

6.521.3 Member Function Documentation

6.521.3.1 virtual void activemq::transport::ResponseCallback::onComplete (decaf::lang::Pointer< commands::Response > *response*) [pure virtual]

When an Asynchronous operations completes this event is fired. The provided **FutureResponse** (p. 1560) can either contain the result of the operation or an exception indicating that the operation failed.

Parameters:

response The result of the asynchronous operation that registered this call-back.

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**ResponseCallback.h**

6.522 activemq::transport::correlator::ResponseCorrelator Class Reference

This type of **transport** (p. 72) filter is responsible for correlating asynchronous responses with requests.

`#include <src/main/activemq/transport/correlator/ResponseCorrelator.h>`Inheritance diagram for activemq::transport::correlator::ResponseCorrelator:

Public Member Functions

- **ResponseCorrelator** (**Pointer**< **Transport** > **next**)

  *Creates a new **ResponseCorrelator** (p. 2598) **transport** (p. 72) filter that wraps the given **transport** (p. 72).*

- virtual ~**ResponseCorrelator** ()
- virtual void **oneway** (const **Pointer**< **Command** > command)

  Sends a one-way command.

- virtual **Pointer**< **FutureResponse** > **asyncRequest** (const **Pointer**< **Command** > command, const **Pointer**< **ResponseCallback** > responseCallback)

  *Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.*

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command)

  Sends the given command to the broker and then waits for the response.

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command, unsigned int timeout)

  Sends the given command to the broker and then waits for the response.

- virtual void **onCommand** (const **Pointer**< **Command** > command)

  This is called in the context of the nested transport's reading thread.

- virtual void **onException** (const **decaf::lang::Exception** &ex)

  *Event handler for an exception from a command **transport** (p. 72).*

Protected Member Functions

- virtual void **doClose** ()

  Subclasses can override this method to do their own close work.

6.522.1 Detailed Description

This type of **transport** (p. 72) filter is responsible for correlating asynchronous responses with requests. Non-response messages are simply sent directly to the CommandListener. It owns the **transport** (p. 72) that it

6.522.2 Constructor & Destructor Documentation

6.522.2.1 activemq::transport::correlator::ResponseCorrelator::ResponseCorrelator (Pointer< Transport > *next*)

Creates a new **ResponseCorrelator** (p. 2598) **transport** (p. 72) filter that wraps the given **transport** (p. 72).

Parameters:

next the next **transport** (p. 72) in the chain

Exceptions:

NullPointerException if next if NULL.

6.522.2.2 virtual activemq::transport::correlator::ResponseCorrelator::~ResponseCorrelator () [virtual]

6.522.3 Member Function Documentation

6.522.3.1 virtual Pointer<FutureResponse> activemq::transport::correlator::ResponseCorrelator::asyncRequest (const Pointer< Command > *command*, const Pointer< ResponseCallback > *responseCallback*) [virtual]

Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.

Parameters:

command The Command object that is to sent out.

responseCallback A callback object that will be notified once a response to the command is received.

Returns:

A **FutureResponse** (p. 1560) instance that can be queried for the Response to the Command.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3122).

6.522.3.2 virtual void activemq::transport::correlator::ResponseCorrelator::doClose () [protected, virtual]

Subclasses can override this method to do their own close work. This method is always called after all the next transports have been closed to prevent this **transport** (p. 72) for destroying resources needed by the lower level transports.

Reimplemented from **activemq::transport::TransportFilter** (p. 3123).

6.522.3.3 virtual void activemq::transport::correlator::ResponseCorrelator::onCommand (const Pointer< Command > *command*) [virtual]

This is called in the context of the nested transport's reading thread. In the case of a response object, updates the request map and notifies those waiting on the response. Non-response messages are just delegated to the command listener.

Parameters:

command The received from the nested **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3125).

6.522.3.4 virtual void activemq::transport::correlator::ResponseCorrelator::oneway (const Pointer< Command > *command*) [virtual]

Sends a one-way command. Does not wait for any response from the broker.

Parameters:

command The command to be sent.

Exceptions:

IOException if an exception occurs during writing of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3125).

6.522.3.5 virtual void activemq::transport::correlator::ResponseCorrelator::onException (const decaf::lang::Exception & *ex*) [virtual]

Event handler for an exception from a command **transport** (p. 72).

Parameters:

source The source of the exception.

ex The exception that was caught.

Reimplemented from **activemq::transport::TransportFilter** (p. 3126).

6.522.3.6 virtual Pointer<Response> activemq::transport::correlator::ResponseCorrelator::request (const Pointer< Command > *command*, unsigned int *timeout*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command The command to be sent.

timeout The time to wait for this response.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3126).

6.522.3.7 virtual Pointer<Response> activemq::transport::correlator::ResponseCorrelator::request (const Pointer< Command > *command*) [virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command the command to be sent.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Reimplemented from **activemq::transport::TransportFilter** (p. 3127).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/correlator/**ResponseCorrelator.h**

6.523 activemq::wireformat::openwire::marshal::generated::ResponseMa Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ResponseMarshaller** (p. 2602).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ResponseMarshaller.h>`Inheritanc diagram for activemq::wireformat::openwire::marshal::generated::ResponseMarshaller:

Public Member Functions

- **ResponseMarshaller** ()
- virtual ~**ResponseMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.523.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ResponseMarshaller** (p. 2602). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.523.2 Constructor & Destructor Documentation

6.523.2.1 activemq::wireformat::openwire::marshal::generated::ResponseMarshaller::ResponseMarsh () [inline]

6.523.2.2 virtual activemq::wireformat::openwire::marshal::generated::ResponseMarshaller::~ResponseMars () [inline, virtual]

6.523.3 Member Function Documentation

6.523.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ResponseMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1236), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1278), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1457), and **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1744).

6.523.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ResponseMarshaller::getDataStructure () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1236), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1278), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1457), and **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1744).

6.523.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ResponseMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1236), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1278), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1457), and **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1744).

6.523.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ResponseMarshaller::looseUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1237), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1279), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1458), and **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1745).

6.523.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ResponseMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1237), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1279), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1458), and **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1745).

6.523.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ResponseMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1237), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1279), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1458), and **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1745).

6.523.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ResponseMarshaller::tightUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller** (p. 1238), **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller** (p. 1280), **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller** (p. 1459), and **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller** (p. 1746).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ResponseMarshaller.h**

6.524 decaf::lang::Runnable Class Reference

Interface for a runnable object - defines a task that can be run by a thread.

`#include <src/main/decaf/lang/Runnable.h>`Inheritance diagram for decaf::lang::Runnable:

Public Member Functions

- virtual ~**Runnable** ()
- virtual void **run** ()=0

  *Run method - called by the **Thread** (p. 3000) class in the context of the thread.*

6.524.1 Detailed Description

Interface for a runnable object - defines a task that can be run by a thread.

6.524.2 Constructor & Destructor Documentation

6.524.2.1 virtual decaf::lang::Runnable::~Runnable () [virtual]

6.524.3 Member Function Documentation

6.524.3.1 virtual void decaf::lang::Runnable::run () [pure virtual]

Run method - called by the **Thread** (p. 3000) class in the context of the thread.

Implemented in **activemq::threads::CompositeTaskRunner** (p. 1042), **activemq::threads::DedicatedTaskRunner** (p. 1305), **activemq::threads::SchedulerTimerTask** (p. 2617), **activemq::transport::inactivity::ReadChecker** (p. 2513), **activemq::transport::inactivity::WriteChecker** (p. 3235), **activemq::transport::IOTransport** (p. 1784), **activemq::transport::mock::InternalCommandListener** (p. 1752), **decaf::lang::Thread** (p. 3007), and **decaf::util::concurrent::FutureTask< T >** (p. 1566).

Referenced by decaf::util::concurrent::ThreadPoolExecutor::CallerRunsPolicy::rejectedExecution().

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Runnable.h**

6.525 decaf::util::concurrent::RunnableFuture< T > Class Template Reference

A Runnable version of the **Future** (p. 1558) type.

`#include <src/main/decaf/util/concurrent/RunnableFuture.h>`Inheritance diagram for decaf::util::concurrent::RunnableFuture< T >:

Public Member Functions

- virtual ~**RunnableFuture** ()

6.525.1 Detailed Description

template<typename T> class decaf::util::concurrent::RunnableFuture< T >

A Runnable version of the **Future** (p. 1558) type. When the run method has completed successfully the **Future** (p. 1558) will be considered complete and its get method will return the produced result.

Since:

1.0

6.525.2 Constructor & Destructor Documentation

6.525.2.1 template<typename T > virtual decaf::util::concurrent::RunnableFuture< T >::~RunnableFuture () [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**RunnableFuture.h**

6.526 decaf::lang::Runtime Class Reference

`#include <src/main/decaf/lang/Runtime.h>`Inheritance diagram for decaf::lang::Runtime:

Public Member Functions

- virtual ~**Runtime** ()

Static Public Member Functions

- static **Runtime** * **getRuntime** ()

  Gets the single instance of the Decaf ***Runtime*** *(p. 2609) for this Process.*

- static void **initializeRuntime** (int argc, char **argv)

  Initialize the Decaf Library passing it the args that were passed to the application at startup.

- static void **initializeRuntime** ()

  Initialize the Decaf Library.

- static void **shutdownRuntime** ()

  Shutdown the Decaf Library, this call should take places after all objects that were created from the Decaf library have been deallocated.

Protected Member Functions

- **Runtime** ()

6.526.1 Constructor & Destructor Documentation

6.526.1.1 decaf::lang::Runtime::Runtime () `[protected]`

6.526.1.2 virtual decaf::lang::Runtime::~Runtime () `[virtual]`

6.526.2 Member Function Documentation

6.526.2.1 static Runtime* decaf::lang::Runtime::getRuntime () `[static]`

Gets the single instance of the Decaf **Runtime** (p. 2609) for this Process.

Returns:

pointer to the single Decaf **Runtime** (p. 2609) instance that exists for this process

6.526.2.2 static void decaf::lang::Runtime::initializeRuntime () [static]

Initialize the Decaf Library.

Exceptions:

runtime_error if the library is already initialized or an error occurs during initialization.

6.526.2.3 static void decaf::lang::Runtime::initializeRuntime (int *argc*, char ** *argv*) [static]

Initialize the Decaf Library passing it the args that were passed to the application at startup.

Parameters:

argc - The number of args passed

argv - Array of char* values passed to the Process on start.

Exceptions:

runtime_error if the library is already initialized or an error occurs during initialization.

6.526.2.4 static void decaf::lang::Runtime::shutdownRuntime () [static]

Shutdown the Decaf Library, this call should take places after all objects that were created from the Decaf library have been deallocated.

Exceptions:

runtime_error if the library has not already been initialized or an error occurs during shutdown.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Runtime.h**

6.527 decaf::lang::exceptions::RuntimeException Class Reference

`#include <src/main/decaf/lang/exceptions/RuntimeException.h>`Inheritance diagram for decaf::lang::exceptions::RuntimeException:

Public Member Functions

- **RuntimeException** ()

  Default Constructor.

- **RuntimeException** (const **Exception** &ex)

  Conversion Constructor from some other ActiveMQException.

- **RuntimeException** (const **RuntimeException** &ex)

  Copy Constructor.

- **RuntimeException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **RuntimeException** (const std::exception *cause)

  Constructor.

- **RuntimeException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **RuntimeException** * **clone** () const

  Clones this exception.

- virtual ~**RuntimeException** () throw ()

6.527.1 Constructor & Destructor Documentation

6.527.1.1 decaf::lang::exceptions::RuntimeException::RuntimeException ()

Default Constructor.

6.527.1.2 decaf::lang::exceptions::RuntimeException::RuntimeException (const Exception & *ex*)

Conversion Constructor from some other ActiveMQException.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.527.1.3 decaf::lang::exceptions::RuntimeException::RuntimeException (const RuntimeException & *ex*)

Copy Constructor.

Parameters:

ex The **Exception** (p. 1445) whose data is to be copied into this one.

6.527.1.4 decaf::lang::exceptions::RuntimeException::RuntimeException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.527.1.5 decaf::lang::exceptions::RuntimeException::RuntimeException (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.527.1.6 decaf::lang::exceptions::RuntimeException::RuntimeException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.527.1.7 virtual decaf::lang::exceptions::RuntimeException::~RuntimeException () throw () [virtual]

6.527.2 Member Function Documentation

6.527.2.1 virtual RuntimeException* decaf::lang::exceptions::RuntimeException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

Reimplemented in **decaf::lang::exceptions::NegativeArraySizeException** (p. 2230), **decaf::security::ProviderException** (p. 2489), **decaf::util::ConcurrentModificationException** (p. 1052), and **decaf::util::NoSuchElementException** (p. 2249).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**RuntimeException.h**

6.528 decaf::internal::util::concurrent::RWLOCK Struct Reference

`#include <src/main/decaf/internal/util/concurrent/windows/PlatformDefs.h>`

Data Fields

- HANDLE **writeMutex**
- HANDLE **readEvent**
- volatile LONG **readers**

6.528.1 Field Documentation

6.528.1.1 volatile LONG decaf::internal::util::concurrent::RWLOCK::readers

6.528.1.2 HANDLE decaf::internal::util::concurrent::RWLOCK::readEvent

6.528.1.3 HANDLE decaf::internal::util::concurrent::RWLOCK::writeMutex

The documentation for this struct was generated from the following file:

- src/main/decaf/internal/util/concurrent/windows/**PlatformDefs.h**

6.529 activemq::threads::Scheduler Class Reference

Scheduler (p. 2615) class for use in executing Runnable Tasks either periodically or one time only with optional delay.

`#include <src/main/activemq/threads/Scheduler.h>`Inheritance diagram for activemq::threads::Scheduler:

Public Member Functions

- **Scheduler** (const std::string &name)
- virtual ~**Scheduler** ()
- void **executePeriodically** (**decaf::lang::Runnable** *task, long long period, bool ownsTask=true)
- void **schedualPeriodically** (**decaf::lang::Runnable** *task, long long period, bool ownsTask=true)
- void **cancel** (**decaf::lang::Runnable** *task)
- void **executeAfterDelay** (**decaf::lang::Runnable** *task, long long delay, bool ownsTask=true)
- void **shutdown** ()

Protected Member Functions

- virtual void **doStart** ()

  Performs the actual start operation on the service, acquiring all the resources needed to run the service.

- virtual void **doStop** (**activemq::util::ServiceStopper** *stopper)

  Performs the actual stop operation on the service, ensuring that all resources held are released, must be implemented in derived class.

6.529.1 Detailed Description

Scheduler (p. 2615) class for use in executing Runnable Tasks either periodically or one time only with optional delay.

Since:

3.3.0

6.529.2 Constructor & Destructor Documentation

6.529.2.1 activemq::threads::Scheduler::Scheduler (const std::string & *name*)

6.529.2.2 virtual activemq::threads::Scheduler::~Scheduler () [virtual]

6.529.3 Member Function Documentation

6.529.3.1 void activemq::threads::Scheduler::cancel (decaf::lang::Runnable * *task*)

6.529.3.2 virtual void activemq::threads::Scheduler::doStart () [protected, virtual]

Performs the actual start operation on the service, acquiring all the resources needed to run the service. Must be implemented in derived class.

Implements **activemq::util::ServiceSupport** (p. 2663).

6.529.3.3 virtual void activemq::threads::Scheduler::doStop (activemq::util::ServiceStopper * *stopper*) [protected, virtual]

Performs the actual stop operation on the service, ensuring that all resources held are released, must be implemented in derived class.

Implements **activemq::util::ServiceSupport** (p. 2663).

6.529.3.4 void activemq::threads::Scheduler::executeAfterDelay (decaf::lang::Runnable * *task*, long long *delay*, bool *ownsTask* = true)

6.529.3.5 void activemq::threads::Scheduler::executePeriodically (decaf::lang::Runnable * *task*, long long *period*, bool *ownsTask* = true)

6.529.3.6 void activemq::threads::Scheduler::schedualPeriodically (decaf::lang::Runnable * *task*, long long *period*, bool *ownsTask* = true)

6.529.3.7 void activemq::threads::Scheduler::shutdown ()

The documentation for this class was generated from the following file:

- src/main/activemq/threads/**Scheduler.h**

6.530 activemq::threads::SchedulerTimerTask Class Reference

Extension of the Decaf TimerTask that adds a Runnable instance which is the target of this task.

`#include <src/main/activemq/threads/SchedulerTimerTask.h>`Inheritance diagram for activemq::threads::SchedulerTimerTask:

Public Member Functions

- **SchedulerTimerTask** (**decaf::lang::Runnable** *task, bool ownsTask=true)
- virtual ~**SchedulerTimerTask** ()
- virtual void **run** ()

  Run method - called by the Thread class in the context of the thread.

6.530.1 Detailed Description

Extension of the Decaf TimerTask that adds a Runnable instance which is the target of this task.

Since:

3.3.0

6.530.2 Constructor & Destructor Documentation

6.530.2.1 activemq::threads::SchedulerTimerTask::SchedulerTimerTask (decaf::lang::Runnable * *task*, bool *ownsTask* = `true`)

6.530.2.2 virtual activemq::threads::SchedulerTimerTask::~SchedulerTimerTask () `[virtual]`

6.530.3 Member Function Documentation

6.530.3.1 virtual void activemq::threads::SchedulerTimerTask::run () `[virtual]`

Run method - called by the Thread class in the context of the thread.

Implements **decaf::lang::Runnable** (p. 2607).

The documentation for this class was generated from the following file:

- src/main/activemq/threads/**SchedulerTimerTask.h**

6.531 decaf::security::SecureRandom Class Reference

`#include <src/main/decaf/security/SecureRandom.h>`Inheritance diagram for decaf::security::SecureRandom:

Public Member Functions

- **SecureRandom** ()

  Creates a new instance of a secure random number generator that implements the default random number algorithm.

- **SecureRandom** (const std::vector< unsigned char > &seed)

  Creates a new instance of a secure random number generator that implements the default random number algorithm.

- **SecureRandom** (const unsigned char *seed, int size)

  Creates a new instance of a secure random number generator that implements the default random number algorithm.

- virtual ~**SecureRandom** ()
- virtual void **nextBytes** (std::vector< unsigned char > &buf)

  Modifies the byte array by a random sequence of bytes generated by this random number generator.
  Parameters:

  buf *non-null array to contain the new random bytes*
  See also:

  next *(p. 2507)*

- virtual void **nextBytes** (unsigned char *buf, int size)

  Modifies the byte array by a random sequence of bytes generated by this random number generator.
  Parameters:

  buf *non-null array to contain the new random bytes*
  See also:

  next *(p. 2507)*
  Exceptions:

  NullPointerException *if buff is NULL*
  IllegalArgumentException *if size is negative*

- virtual void **setSeed** (unsigned long long seed)

  Modifies the seed using linear congruential formula presented in The Art of Computer Programming, Volume 2, Section 3.2.1.
  Parameters:

  seed *the seed that alters the state of the random number generator*
  See also:

  next *(p. 2507)*
  Random() *(p. 2507)*
  Random(long)

- virtual void **setSeed** (const std::vector< unsigned char > &seed)

  Supplements or sets the seed of this secure random number generator, calls to this method never reduces randomness.

- virtual void **setSeed** (const unsigned char *seed, int size)

  Supplements or sets the seed of this secure random number generator, calls to this method never reduces randomness.

Protected Member Functions

- virtual int **next** (int bits)

  Answers a pseudo-random uniformly distributed ***int*** *value of the number of bits specified by the argument* ***bits*** *as described by Donald E.*
  Knuth in The Art of Computer Programming, Volume 2: Seminumerical Algorithms, section 3.2.1.
  Returns:

  int a pseudo-random generated int number
  Parameters:

  bits *number of bits of the returned value*
  See also:

  nextBytes *(p. 2508)*
  nextDouble *(p. 2509)*
  nextFloat *(p. 2509)*
  nextInt() *(p. 2510)*
  nextInt(int) *(p. 2509)*
  nextGaussian *(p. 2509)*
  nextLong *(p. 2510)*

6.531.1 Detailed Description

Since:

1.0

6.531.2 Constructor & Destructor Documentation

6.531.2.1 decaf::security::SecureRandom::SecureRandom ()

Creates a new instance of a secure random number generator that implements the default random number algorithm. The **SecureRandom** (p. 2618) instance that is created with this constructor is unseeded and can be seeded by calling the setSeed method. Calls to nextBytes on an unseeded **SecureRandom** (p. 2618) result in the object seeding itself.

6.531.2.2 decaf::security::SecureRandom::SecureRandom (const std::vector< unsigned char > & *seed*)

Creates a new instance of a secure random number generator that implements the default random number algorithm. The **SecureRandom** (p. 2618) instance created by this constructor is seeded using the passed byte array.

Parameters:

seed The seed bytes to use to seed this secure random number generator.

6.531.2.3 decaf::security::SecureRandom::SecureRandom (const unsigned char * *seed*, int *size*)

Creates a new instance of a secure random number generator that implements the default random number algorithm. The **SecureRandom** (p. 2618) instance created by this constructor is seeded using the passed byte array.

Parameters:

seed The seed bytes to use to seed this secure random number generator.

size The number of bytes in the seed buffer.

Exceptions:

NullPointerException if the seed buffer is NULL.

IllegalArgumentException if the size value is negative.

6.531.2.4 virtual decaf::security::SecureRandom::~SecureRandom () [virtual]

6.531.3 Member Function Documentation

6.531.3.1 virtual int decaf::security::SecureRandom::next (int *bits*) [protected, virtual]

Answers a pseudo-random uniformly distributed `int` value of the number of bits specified by the argument `bits` as described by Donald E.

Knuth in *The Art of Computer Programming, Volume 2: Seminumerical Algorithms*, section 3.2.1.

Returns:

int a pseudo-random generated int number

Parameters:

bits number of bits of the returned value

See also:

nextBytes (p. 2508)
nextDouble (p. 2509)
nextFloat (p. 2509)
nextInt() (p. 2510)
nextInt(int) (p. 2509)
nextGaussian (p. 2509)
nextLong (p. 2510)

Reimplemented from **decaf::util::Random** (p. 2507).

6.531.3.2 virtual void decaf::security::SecureRandom::nextBytes (unsigned char * *buf*, int *size*) [virtual]

Modifies the byte array by a random sequence of bytes generated by this random number generator.

Parameters:

buf non-null array to contain the new random bytes

See also:

next (p. 2507)

Exceptions:

NullPointerException if buff is NULL

IllegalArgumentException if size is negative

Reimplemented from **decaf::util::Random** (p. 2508).

6.531.3.3 virtual void decaf::security::SecureRandom::nextBytes (std::vector< unsigned char > & *buf*) [virtual]

Modifies the byte array by a random sequence of bytes generated by this random number generator.

Parameters:

buf non-null array to contain the new random bytes

See also:

next (p. 2507)

Reimplemented from **decaf::util::Random** (p. 2508).

6.531.3.4 virtual void decaf::security::SecureRandom::setSeed (const unsigned char * *seed*, int *size*) [virtual]

Supplements or sets the seed of this secure random number generator, calls to this method never reduces randomness.

Parameters:

seed The seed bytes to use to seed this secure random number generator.

size The number of bytes in the seed buffer.

Exceptions:

NullPointerException if the seed buffer is NULL.

IllegalArgumentException if the size value is negative.

6.531.3.5 virtual void decaf::security::SecureRandom::setSeed (const std::vector< unsigned char > & *seed*) [virtual]

Supplements or sets the seed of this secure random number generator, calls to this method never reduces randomness.

Parameters:

seed A vector of bytes that is used update the seed of the RNG.

6.531.3.6 virtual void decaf::security::SecureRandom::setSeed (unsigned long long *seed*) [virtual]

Modifies the seed using linear congruential formula presented in *The Art of Computer Programming, Volume 2*, Section 3.2.1.

Parameters:

seed the seed that alters the state of the random number generator

See also:

next (p. 2507)
Random() (p. 2507)
Random(long)

Reimplemented from **decaf::util::Random** (p. 2510).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**SecureRandom.h**

6.532 decaf::internal::security::SecureRandomImpl Class Reference

Secure Random Number Generator for Unix based platforms that attempts to obtain secure bytes with high entropy from known sources.

`#include <src/main/decaf/internal/security/unix/SecureRandomImpl.h>`Inheritance diagram for decaf::internal::security::SecureRandomImpl:

Public Member Functions

- **SecureRandomImpl** ()
- virtual ~**SecureRandomImpl** ()
- virtual void **providerSetSeed** (const unsigned char *seed, int size)

  Reseed the Random Number Generator, the value given supplements the previous seed value if any instead of replacing it.

- virtual void **providerNextBytes** (unsigned char *bytes, int numBytes)

  Generates the number of random bytes specified by the size parameter and write them to the passed bytes array.

- virtual unsigned char * **providerGenerateSeed** (int numBytes)

  Generates a new set of seed bytes, the returned value may be used to seed another Random Number Generator.

- **SecureRandomImpl** ()
- virtual ~**SecureRandomImpl** ()
- virtual void **providerSetSeed** (const unsigned char *seed, int size)

  Reseed the Random Number Generator, the value given supplements the previous seed value if any instead of replacing it.

- virtual void **providerNextBytes** (unsigned char *bytes, int numBytes)

  Generates the number of random bytes specified by the size parameter and write them to the passed bytes array.

- virtual unsigned char * **providerGenerateSeed** (int numBytes)

  Generates a new set of seed bytes, the returned value may be used to seed another Random Number Generator.

6.532.1 Detailed Description

Secure Random Number Generator for Unix based platforms that attempts to obtain secure bytes with high entropy from known sources. Secure Random Number Generator for Windows based platforms that attempts to obtain secure bytes with high entropy from known sources.

If the platform does not have a source of secure bytes then the platform random number generator is used if one exists otherwise the Decaf RNG is used as a last resort.

Since:

1.0

6.532.2 Constructor & Destructor Documentation

6.532.2.1 decaf::internal::security::SecureRandomImpl::SecureRandomImpl ()

6.532.2.2 virtual decaf::internal::security::SecureRandomImpl::~SecureRandomImpl () [virtual]

6.532.2.3 decaf::internal::security::SecureRandomImpl::SecureRandomImpl ()

6.532.2.4 virtual decaf::internal::security::SecureRandomImpl::~SecureRandomImpl () [virtual]

6.532.3 Member Function Documentation

6.532.3.1 virtual unsigned char* decaf::internal::security::SecureRandomImpl::providerGenerateSeed (int *numBytes*) [virtual]

Generates a new set of seed bytes, the returned value may be used to seed another Random Number Generator. The caller owns the returned array and must delete it.

Parameters:

numBytes The number of bytes that should be generated for the new seed array.

Implements **decaf::security::SecureRandomSpi** (p. 2626).

6.532.3.2 virtual unsigned char* decaf::internal::security::SecureRandomImpl::providerGenerateSeed (int *numBytes*) [virtual]

Generates a new set of seed bytes, the returned value may be used to seed another Random Number Generator. The caller owns the returned array and must delete it.

Parameters:

numBytes The number of bytes that should be generated for the new seed array.

Implements **decaf::security::SecureRandomSpi** (p. 2626).

6.532.3.3 virtual void decaf::internal::security::SecureRandomImpl::providerNextBytes (unsigned char * *bytes*, int *numBytes*) [virtual]

Generates the number of random bytes specified by the size parameter and write them to the passed bytes array. The array must have already been allocated and be of the correct size to prevent segmentation faults.

Parameters:

bytes The array that will be filled with random bytes equal to size.

numBytes The number of bytes to generate and write into the bytes array.

Implements **decaf::security::SecureRandomSpi** (p. 2627).

6.532.3.4 virtual void decaf::internal::security::SecureRandomImpl::providerNextBytes (unsigned char * *bytes*, int *numBytes*) [virtual]

Generates the number of random bytes specified by the size parameter and write them to the passed bytes array. The array must have already been allocated and be of the correct size to prevent segmentation faults.

Parameters:

bytes The array that will be filled with random bytes equal to size.

numBytes The number of bytes to generate and write into the bytes array.

Implements **decaf::security::SecureRandomSpi** (p. 2627).

6.532.3.5 virtual void decaf::internal::security::SecureRandomImpl::providerSetSeed (const unsigned char * *seed*, int *size*) [virtual]

Reseed the Random Number Generator, the value given supplements the previous seed value if any instead of replacing it.

Parameters:

seed The array of bytes used to update the generators seed.

size The size of the passed byte array.

Implements **decaf::security::SecureRandomSpi** (p. 2627).

6.532.3.6 virtual void decaf::internal::security::SecureRandomImpl::providerSetSeed (const unsigned char * *seed*, int *size*) [virtual]

Reseed the Random Number Generator, the value given supplements the previous seed value if any instead of replacing it.

Parameters:

seed The array of bytes used to update the generators seed.

size The size of the passed byte array.

Implements **decaf::security::SecureRandomSpi** (p. 2627).

The documentation for this class was generated from the following files:

- src/main/decaf/internal/security/unix/**SecureRandomImpl.h**
- src/main/decaf/internal/security/windows/**SecureRandomImpl.h**

6.533 decaf::security::SecureRandomSpi Class Reference

Interface class used by **Security** (p. 2628) Service Providers to implement a source of secure random bytes.

`#include <src/main/decaf/security/SecureRandomSpi.h>`Inheritance diagram for decaf::security::SecureRandomSpi:

Public Member Functions

- **SecureRandomSpi** ()
- virtual ~**SecureRandomSpi** ()
- virtual void **providerSetSeed** (const unsigned char *seed, int size)=0

  Reseed the Random Number Generator, the value given supplements the previous seed value if any instead of replacing it.

- virtual void **providerNextBytes** (unsigned char *bytes, int numBytes)=0

  Generates the number of random bytes specified by the size parameter and write them to the passed bytes array.

- virtual unsigned char * **providerGenerateSeed** (int numBytes)=0

  Generates a new set of seed bytes, the returned value may be used to seed another Random Number Generator.

6.533.1 Detailed Description

Interface class used by **Security** (p. 2628) Service Providers to implement a source of secure random bytes.

Since:

1.0

6.533.2 Constructor & Destructor Documentation

6.533.2.1 decaf::security::SecureRandomSpi::SecureRandomSpi ()

6.533.2.2 virtual decaf::security::SecureRandomSpi::~SecureRandomSpi () [virtual]

6.533.3 Member Function Documentation

6.533.3.1 virtual unsigned char* decaf::security::SecureRandomSpi::providerGenerateSeed (int *numBytes*) [pure virtual]

Generates a new set of seed bytes, the returned value may be used to seed another Random Number Generator. The caller owns the returned array and must delete it.

Parameters:

numBytes The number of bytes that should be generated for the new seed array.

Implemented in **decaf::internal::security::SecureRandomImpl** (p. 2624), and **decaf::internal::security::SecureRandomImpl** (p. 2624).

6.533.3.2 virtual void decaf::security::SecureRandomSpi::providerNextBytes (unsigned char * *bytes*, int *numBytes*) [pure virtual]

Generates the number of random bytes specified by the size parameter and write them to the passed bytes array. The array must have already been allocated and be of the correct size to prevent segmentation faults.

Parameters:

bytes The array that will be filled with random bytes equal to size.

numBytes The number of bytes to generate and write into the bytes array.

Implemented in **decaf::internal::security::SecureRandomImpl** (p. 2625), and **decaf::internal::security::SecureRandomImpl** (p. 2625).

6.533.3.3 virtual void decaf::security::SecureRandomSpi::providerSetSeed (const unsigned char * *seed*, int *size*) [pure virtual]

Reseed the Random Number Generator, the value given supplements the previous seed value if any instead of replacing it.

Parameters:

seed The array of bytes used to update the generators seed.

size The size of the passed byte array.

Implemented in **decaf::internal::security::SecureRandomImpl** (p. 2625), and **decaf::internal::security::SecureRandomImpl** (p. 2625).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**SecureRandomSpi.h**

6.534 decaf::security::Security Class Reference

`#include <src/main/decaf/security/Security.h>`

Public Member Functions

- **Security** ()
- virtual ~**Security** ()

6.534.1 Detailed Description

Since:

1.0

6.534.2 Constructor & Destructor Documentation

6.534.2.1 decaf::security::Security::Security ()

6.534.2.2 virtual decaf::security::Security::~Security () [virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/security/**Security.h**

6.535 decaf::internal::security::SecurityRuntime Class Reference

Internal class used to manage Security related resources and hide platform dependent calls from the higher level API.

`#include <src/main/decaf/internal/security/SecurityRuntime.h>`

Public Member Functions

- virtual ~**SecurityRuntime** ()
- **ServiceRegistry** * **getServiceRegistry** ()

  Return the Security Framework's Service Registry.

- **decaf::util::concurrent::Mutex** * **getRuntimeLock** ()

  Gets a pointer to the Security Runtime's Lock object, this can be used by Security layer APIs to synchronize around certain actions such as adding a resource to the Security layer, etc.

Static Public Member Functions

- static **SecurityRuntime** * **getSecurityRuntime** ()

  Gets the one and only instance of the Security class, if this is called before the Security layer has been initialized or after it has been shutdown then an IllegalStateException is thrown.

- static void **initializeSecurity** ()

  Initialize the Security layer.

- static void **shutdownSecurity** ()

  Shutdown the Security layer and free any associated resources, classes in the Decaf library that use the Security layer will now fail if used after calling the shutdown method.

Protected Member Functions

- **SecurityRuntime** ()

6.535.1 Detailed Description

Internal class used to manage Security related resources and hide platform dependent calls from the higher level API.

Since:

1.0

6.535.2 Constructor & Destructor Documentation

6.535.2.1 decaf::internal::security::SecurityRuntime::SecurityRuntime () [protected]

6.535.2.2 virtual decaf::internal::security::SecurityRuntime::~SecurityRuntime () [virtual]

6.535.3 Member Function Documentation

6.535.3.1 decaf::util::concurrent::Mutex* decaf::internal::security::SecurityRuntime::getRuntimeLock ()

Gets a pointer to the Security Runtime's Lock object, this can be used by Security layer APIs to synchronize around certain actions such as adding a resource to the Security layer, etc. The pointer returned is owned by the Security runtime and should not be deleted or copied by the caller.

Returns:

a pointer to the Security Runtime's single Lock instance.

6.535.3.2 static SecurityRuntime* decaf::internal::security::SecurityRuntime::getSecurityRuntime () [static]

Gets the one and only instance of the Security class, if this is called before the Security layer has been initialized or after it has been shutdown then an IllegalStateException is thrown.

Returns:

pointer to the Security runtime for the Decaf library.

6.535.3.3 ServiceRegistry* decaf::internal::security::SecurityRuntime::getServiceRegistry ()

Return the Security Framework's Service Registry.

Returns:

a pointer to the frameworks Service Registry.

6.535.3.4 static void decaf::internal::security::SecurityRuntime::initializeSecurity () [static]

Initialize the Security layer.

6.535.3.5 static void decaf::internal::security::SecurityRuntime::shutdownSecurity () [static]

Shutdown the Security layer and free any associated resources, classes in the Decaf library that use the Security layer will now fail if used after calling the shutdown method.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/security/**SecurityRuntime.h**

6.536 decaf::security::SecuritySpi Class Reference

Base class used as a Marker for all **Security** (p. 2628) **Provider** (p. 2485) Interface classes in the Decaf **Security** (p. 2628) API.

`#include <src/main/decaf/security/SecuritySpi.h>`Inheritance diagram for decaf::security::SecuritySpi:

Public Member Functions

- **SecuritySpi** ()
- virtual ~**SecuritySpi** ()

6.536.1 Detailed Description

Base class used as a Marker for all **Security** (p. 2628) **Provider** (p. 2485) Interface classes in the Decaf **Security** (p. 2628) API.

Since:

1.0

6.536.2 Constructor & Destructor Documentation

6.536.2.1 decaf::security::SecuritySpi::SecuritySpi ()

6.536.2.2 virtual decaf::security::SecuritySpi::~SecuritySpi () [virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/security/**SecuritySpi.h**

6.537 decaf::util::concurrent::Semaphore Class Reference

A counting semaphore.

`#include <src/main/decaf/util/concurrent/Semaphore.h>`

Public Member Functions

- **Semaphore** (int permits)

  *Creates a **Semaphore** (p. 2633) with the given number of permits and nonfair fairness setting.*

- **Semaphore** (int permits, bool fair)

  *Creates a **Semaphore** (p. 2633) with the given number of permits and the given fairness setting.*

- virtual ~**Semaphore** ()
- void **acquire** ()

  Acquires a permit from this semaphore, blocking until one is available, or the thread is interrupted.

- void **acquireUninterruptibly** ()

  Acquires a permit from this semaphore, blocking until one is available.

- bool **tryAcquire** ()

  Acquires a permit from this semaphore, only if one is available at the time of invocation.

- bool **tryAcquire** (long long timeout, const **TimeUnit** &unit)

  Acquires a permit from this semaphore, if one becomes available within the given waiting time and the current thread has not been interrupted.

- void **release** ()

  Releases a permit, returning it to the semaphore.

- void **acquire** (int permits)

  Acquires the given number of permits from this semaphore, blocking until all are available, or the thread is interrupted.

- void **acquireUninterruptibly** (int permits)

  Acquires the given number of permits from this semaphore, blocking until all are available.

- bool **tryAcquire** (int permits)

  Acquires the given number of permits from this semaphore, only if all are available at the time of invocation.

- bool **tryAcquire** (int permits, long long timeout, const **TimeUnit** &unit)

  Acquires the given number of permits from this semaphore, if all become available within the given waiting time and the current thread has not been interrupted.

- void **release** (int permits)

  Releases the given number of permits, returning them to the semaphore.

- int **availablePermits** () const

Returns the current number of permits available in this semaphore.

- int **drainPermits** ()

  Acquires and returns all permits that are immediately available.

- bool **isFair** () const
- std::string **toString** () const

  Returns a string identifying this semaphore, as well as its state.

- int **getQueueLength** () const

  Gets an estimated count of the number of threads that are currently waiting to acquire, this value changes dynamically so the result of this method can be invalid immediately after it is called.

- bool **hasQueuedThreads** () const

Protected Member Functions

- void **reducePermits** (int reduceBy)

  Reduces the number of available permits which can be useful for subclasses.

- **decaf::util::Collection< decaf::lang::Thread * > * getQueuedThreads** () const

  *Creates and returns a new **Collection** (p. 1000) object that contains a best effort snapshot of the threads that are currently waiting to acquire.*

6.537.1 Detailed Description

A counting semaphore. Conceptually, a semaphore maintains a set of permits. Each **acquire()** (p. 2636) blocks if necessary until a permit is available, and then takes it. Each **release()** (p. 2639) adds a permit, potentially releasing a blocking acquirer. However, no actual permit objects are used; the **Semaphore** (p. 2633) just keeps a count of the number available and acts accordingly.

Semaphores are often used to restrict the number of threads than can access some (physical or logical) resource.

class Pool { private:

static const int MAX_AVAILABLE = 100; **Semaphore** (p. 2633) available;

std::vector<std::string> items; std::vector<bool> used;

Mutex (p. 2223) lock;

public:

Pool() : available(MAX_AVAILABLE, true) { used.resize(MAX_AVAILABLE); items.resize(MAX_AVAILABLE); }

std::string getItem() throws InterruptedException { available.acquire(); return getNextAvailableItem(); }

void putItem(std::string x) { if(markAsUnused(x)) { available.release(); } }

std::string getNextAvailableItem() {

synchronized(&lock) (p. 3868) { for(int i = 0; i < MAX_AVAILABLE; ++i) { if(!used[i]) { used[i] = true; return items[i]; } }

return std::string(); // not reached }

bool markAsUnused(const std::string& item) { **synchronized(&lock)** (p. 3868) { for(int i = 0; i < MAX_AVAILABLE; ++i) { if(item == items[i]) { if(used[i]) { used[i] = false; return true; } else return false; } } } return false; } };

Before obtaining an item each thread must acquire a permit from the semaphore, guaranteeing that an item is available for use. When the thread has finished with the item it is returned back to the pool and a permit is returned to the semaphore, allowing another thread to acquire that item. Note that no synchronization lock is held when **acquire()** (p. 2636) is called as that would prevent an item from being returned to the pool. The semaphore encapsulates the synchronization needed to restrict access to the pool, separately from any synchronization needed to maintain the consistency of the pool itself.

A semaphore initialized to one, and which is used such that it only has at most one permit available, can serve as a mutual exclusion lock. This is more commonly known as a binary semaphore, because it only has two states: one permit available, or zero permits available. When used in this way, the binary semaphore has the property (unlike many **Lock** (p. 1911) implementations), that the "lock" can be released by a thread other than the owner (as semaphores have no notion of ownership). This can be useful in some specialized contexts, such as deadlock recovery.

The constructor for this class optionally accepts a fairness parameter. When set false, this class makes no guarantees about the order in which threads acquire permits. In particular, barging is permitted, that is, a thread invoking **acquire()** (p. 2636) can be allocated a permit ahead of a thread that has been waiting - logically the new thread places itself at the head of the queue of waiting threads. When fairness is set true, the semaphore guarantees that threads invoking any of the acquire methods are selected to obtain permits in the order in which their invocation of those methods was processed (first-in-first-out; FIFO). Note that FIFO ordering necessarily applies to specific **internal** (p. 96) points of execution within these methods. So, it is possible for one thread to invoke acquire before another, but reach the ordering point after the other, and similarly upon return from the method. Also note that the untimed tryAcquire methods do not honor the fairness setting, but will take any permits that are available.

Generally, semaphores used to control resource access should be initialized as fair, to ensure that no thread is starved out from accessing a resource. When using semaphores for other kinds of synchronization control, the throughput advantages of non-fair ordering often outweigh fairness considerations.

This class also provides convenience methods to acquire and release multiple permits at a time. Beware of the increased risk of indefinitely postponing when these methods are used without fairness set true.

Since:

1.0

6.537.2 Constructor & Destructor Documentation

6.537.2.1 decaf::util::concurrent::Semaphore::Semaphore (int *permits*)

Creates a **Semaphore** (p. 2633) with the given number of permits and nonfair fairness setting.

Parameters:

permits the initial number of permits available. This value may be negative, in which case releases must occur before any acquires will be granted.

6.537.2.2 decaf::util::concurrent::Semaphore::Semaphore (int *permits*, bool *fair*)

Creates a **Semaphore** (p. 2633) with the given number of permits and the given fairness setting.

Parameters:

permits the initial number of permits available. This value may be negative, in which case releases must occur before any acquires will be granted.

fair true if this semaphore will guarantee first-in first-out granting of permits under contention, else false

6.537.2.3 virtual decaf::util::concurrent::Semaphore::~Semaphore () [virtual]

6.537.3 Member Function Documentation

6.537.3.1 void decaf::util::concurrent::Semaphore::acquire (int *permits*)

Acquires the given number of permits from this semaphore, blocking until all are available, or the thread is interrupted. Acquires the given number of permits, if they are available, and returns immediately, reducing the number of available permits by the given amount.

If insufficient permits are available then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of two things happens:

* Some other thread invokes one of the release methods for this semaphore, the current thread is next to be assigned permits and the number of available permits satisfies this request; or * Some other thread interrupts the current thread.

If the current thread:

* has its interrupted status set on entry to this method; or * is interrupted while waiting for a permit,

then InterruptedException is thrown and the current thread's interrupted status is cleared. Any permits that were to be assigned to this thread are instead assigned to other threads trying to acquire permits, as if permits had been made available by a call to **release()** (p. 2639).

Parameters:

permits the number of permits to acquire.

Exceptions:

InterruptedException if the current thread is interrupted.

IllegalArgumentException if the permits argument is negative.

RuntimeException if an unexpected error occurs while acquiring the **Semaphore** (p. 2633).

6.537.3.2 void decaf::util::concurrent::Semaphore::acquire ()

Acquires a permit from this semaphore, blocking until one is available, or the thread is interrupted. Acquires a permit, if one is available and returns immediately, reducing the number of available permits by one.

If no permit is available then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of two things happens:

∗ Some other thread invokes the **release()** (p. 2639) method for this semaphore and the current thread is next to be assigned a permit; or ∗ Some other thread interrupts the current thread.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while waiting for a permit,

then InterruptedException is thrown and the current thread's interrupted status is cleared.

Exceptions:

InterruptedException - if the current thread is interrupted.

RuntimeException if an unexpected error occurs while acquiring the **Semaphore** (p. 2633).

6.537.3.3 void decaf::util::concurrent::Semaphore::acquireUninterruptibly (int *permits*)

Acquires the given number of permits from this semaphore, blocking until all are available. Acquires the given number of permits, if they are available, and returns immediately, reducing the number of available permits by the given amount.

If insufficient permits are available then the current thread becomes disabled for thread scheduling purposes and lies dormant until some other thread invokes one of the release methods for this semaphore, the current thread is next to be assigned permits and the number of available permits satisfies this request.

If the current thread is interrupted while waiting for permits then it will continue to wait and its position in the queue is not affected. When the thread does return from this method its interrupt status will be set.

Parameters:

permits the number of permits to acquire.

Exceptions:

IllegalArgumentException if the permits argument is negative.

RuntimeException if an unexpected error occurs while acquiring the **Semaphore** (p. 2633).

6.537.3.4 void decaf::util::concurrent::Semaphore::acquireUninterruptibly ()

Acquires a permit from this semaphore, blocking until one is available. Acquires a permit, if one is available and returns immediately, reducing the number of available permits by one.

If no permit is available then the current thread becomes disabled for thread scheduling purposes and lies dormant until some other thread invokes the **release()** (p. 2639) method for this semaphore and the current thread is next to be assigned a permit.

If the current thread is interrupted while waiting for a permit then it will continue to wait, but the time at which the thread is assigned a permit may change compared to the time it would have received the permit had no interruption occurred. When the thread does return from this method its interrupt status will be set.

Exceptions:

RuntimeException if an unexpected error occurs while acquiring the **Semaphore** (p. 2633).

6.537.3.5 int decaf::util::concurrent::Semaphore::availablePermits () const

Returns the current number of permits available in this semaphore. This method is typically used for debugging and testing purposes.

Returns:

the number of permits available in this semaphore

6.537.3.6 int decaf::util::concurrent::Semaphore::drainPermits ()

Acquires and returns all permits that are immediately available.

Returns:

the number of permits acquired

Exceptions:

RuntimeException if an unexpected error occurs while draining the **Semaphore** (p. 2633).

6.537.3.7 decaf::util::Collection<decaf::lang::Thread*>* decaf::util::concurrent::Semaphore::getQueuedThreads () const [protected]

Creates and returns a new **Collection** (p. 1000) object that contains a best effort snapshot of the threads that are currently waiting to acquire.

Returns:

a **Collection** (p. 1000) pointer that contains waiting threads for lock acquisition. The caller owns the returned pointer.

6.537.3.8 int decaf::util::concurrent::Semaphore::getQueueLength () const

Gets an estimated count of the number of threads that are currently waiting to acquire, this value changes dynamically so the result of this method can be invalid immediately after it is called.

Returns:

an estimate of the number of waiting threads.

6.537.3.9 bool decaf::util::concurrent::Semaphore::hasQueuedThreads () const

Returns:

true if there are threads that are currently waiting to acquire this **Semaphore** (p. 2633).

6.537.3.10 bool decaf::util::concurrent::Semaphore::isFair () const

Returns:

true if this semaphore has fairness set true

6.537.3.11 void decaf::util::concurrent::Semaphore::reducePermits (int *reduceBy*) [protected]

Reduces the number of available permits which can be useful for subclasses. If the subclass is tracking a resource that is transiently available this method can be used to modify the **Semaphore** (p. 2633) to reflect that resources current state. This method does not block waiting for the number of permits to be available, unlike the acquire method.

Parameters:

reduceBy The number of permits to remove from the current available set.

Exceptions:

IllegalArgumentException if the param passed in negative.

6.537.3.12 void decaf::util::concurrent::Semaphore::release (int *permits*)

Releases the given number of permits, returning them to the semaphore. Releases the given number of permits, increasing the number of available permits by that amount. If any threads are trying to acquire permits, then one is selected and given the permits that were just released. If the number of available permits satisfies that thread's request then that thread is (re)enabled for thread scheduling purposes; otherwise the thread will wait until sufficient permits are available. If there are still permits available after this thread's request has been satisfied, then those permits are assigned in turn to other threads trying to acquire permits.

Parameters:

permits the number of permits to release

Exceptions:

IllegalArgumentException if the permits argument is negative.

RuntimeException if an unexpected error occurs while releasing the **Semaphore** (p. 2633).

6.537.3.13 void decaf::util::concurrent::Semaphore::release ()

Releases a permit, returning it to the semaphore. Releases a permit, increasing the number of available permits by one. If any threads are trying to acquire a permit, then one is selected and given the permit that was just released. That thread is (re)enabled for thread scheduling purposes.

There is no requirement that a thread that releases a permit must have acquired that permit by calling **acquire()** (p. 2636). Correct usage of a semaphore is established by programming convention in the application.

Exceptions:

RuntimeException if an unexpected error occurs while releasing the **Semaphore** (p. 2633).

6.537.3.14 std::string decaf::util::concurrent::Semaphore::toString () const

Returns a string identifying this semaphore, as well as its state. The state, in brackets, includes the String "Permits =" followed by the number of permits.

Returns:

a string identifying this semaphore, as well as its state

6.537.3.15 bool decaf::util::concurrent::Semaphore::tryAcquire (int *permits*, long long *timeout*, const TimeUnit & *unit*)

Acquires the given number of permits from this semaphore, if all become available within the given waiting time and the current thread has not been interrupted. Acquires the given number of permits, if they are available and returns immediately, with the value true, reducing the number of available permits by the given amount.

If insufficient permits are available then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of three things happens:

∗ Some other thread invokes one of the release methods for this semaphore, the current thread is next to be assigned permits and the number of available permits satisfies this request; or ∗ Some other thread interrupts the current thread; or ∗ The specified waiting time elapses.

If the permits are acquired then the value true is returned.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while waiting to acquire the permits,

then InterruptedException is thrown and the current thread's interrupted status is cleared. Any permits that were to be assigned to this thread, are instead assigned to other threads trying to acquire permits, as if the permits had been made available by a call to **release()** (p. 2639).

If the specified waiting time elapses then the value false is returned. If the time is less than or equal to zero, the method will not wait at all. Any permits that were to be assigned to this thread, are instead assigned to other threads trying to acquire permits, as if the permits had been made available by a call to **release()** (p. 2639).

Parameters:

permits the number of permits to acquire

timeout the maximum amount of time to wait to acquire the permits.

unit the units that the timeout param represents.

Returns:

true if all permits were acquired and false if the waiting time elapsed before all permits were acquired

Exceptions:

IllegalArgumentException if the permits argument is negative.

RuntimeException if an unexpected error occurs while acquiring the **Semaphore** (p. 2633).

6.537.3.16 bool decaf::util::concurrent::Semaphore::tryAcquire (int *permits*)

Acquires the given number of permits from this semaphore, only if all are available at the time of invocation. Acquires the given number of permits, if they are available, and returns immediately, with the value true, reducing the number of available permits by the given amount.

If insufficient permits are available then this method will return immediately with the value false and the number of available permits is unchanged.

Even when this semaphore has been set to use a fair ordering policy, a call to tryAcquire will immediately acquire a permit if one is available, whether or not other threads are currently waiting. This "barging" behavior can be useful in certain circumstances, even though it breaks fairness. If you want to honor the fairness setting, then use tryAcquire(permits, 0, **TimeUnit.SECONDS** (p. 3079)) which is almost equivalent (it also detects interruption).

Parameters:

permits the number of permits to acquire

Returns:

true if the permits were acquired and false otherwise.

Exceptions:

IllegalArgumentException if the permits argument is negative.

RuntimeException if an unexpected error occurs while acquiring the **Semaphore** (p. 2633).

6.537.3.17 bool decaf::util::concurrent::Semaphore::tryAcquire (long long *timeout*, const TimeUnit & *unit*)

Acquires a permit from this semaphore, if one becomes available within the given waiting time and the current thread has not been interrupted. Acquires a permit, if one is available and returns immediately, with the value true, reducing the number of available permits by one.

If no permit is available then the current thread becomes disabled for thread scheduling purposes and lies dormant until one of three things happens:

∗ Some other thread invokes the **release()** (p. 2639) method for this semaphore and the current thread is next to be assigned a permit; or ∗ Some other thread interrupts the current thread; or ∗ The specified waiting time elapses.

If a permit is acquired then the value true is returned.

If the current thread:

∗ has its interrupted status set on entry to this method; or ∗ is interrupted while waiting to acquire a permit,

then InterruptedException is thrown and the current thread's interrupted status is cleared.

If the specified waiting time elapses then the value false is returned. If the time is less than or equal to zero, the method will not wait at all.

Parameters:

timeout the maximum time to wait for a permit

unit the time unit of the timeout argument

Returns:

true if a permit was acquired and false if the waiting time elapsed before a permit was acquired

Exceptions:

InterruptedException if the current thread is interrupted.

RuntimeException if an unexpected error occurs while acquiring the **Semaphore** (p. 2633).

6.537.3.18 bool decaf::util::concurrent::Semaphore::tryAcquire ()

Acquires a permit from this semaphore, only if one is available at the time of invocation. Acquires a permit, if one is available and returns immediately, with the value true, reducing the number of available permits by one.

If no permit is available then this method will return immediately with the value false.

Even when this semaphore has been set to use a fair ordering policy, a call to **tryAcquire()** (p. 2642) will immediately acquire a permit if one is available, whether or not other threads are currently waiting. This "barging" behavior can be useful in certain circumstances, even though it breaks fairness. If you want to honor the fairness setting, then use tryAcquire(0, **TimeUnit.SECONDS** (p. 3079)) which is almost equivalent (it also detects interruption).

Returns:

true if a permit was acquired and false otherwise

Exceptions:

RuntimeException if an unexpected error occurs while acquiring the **Semaphore** (p. 2633).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Semaphore.h**

6.538 activemq::cmsutil::CmsTemplate::SendExecutor Class Reference

`#include <src/main/activemq/cmsutil/CmsTemplate.h>`Inheritance diagram for activemq::cmsutil::CmsTemplate::SendExecutor:

Public Member Functions

- **SendExecutor** (**MessageCreator** *messageCreator, **CmsTemplate** *parent)
- virtual ~**SendExecutor** ()
- virtual void **doInCms** (**cms::Session** *session, **cms::MessageProducer** *producer)

  Execute an action given a session and producer.

6.538.1 Constructor & Destructor Documentation

6.538.1.1 activemq::cmsutil::CmsTemplate::SendExecutor::SendExecutor (MessageCreator * *messageCreator*, CmsTemplate * *parent*) [inline]

6.538.1.2 virtual activemq::cmsutil::CmsTemplate::SendExecutor::~SendExecutor () [inline, virtual]

6.538.2 Member Function Documentation

6.538.2.1 virtual void activemq::cmsutil::CmsTemplate::SendExecutor::doInCms (cms::Session * *session*, cms::MessageProducer * *producer*) [inline, virtual]

Execute an action given a session and producer.

Parameters:

session the CMS `Session`

producer the CMS `Producer`

Exceptions:

cms::CMSException *(*p. ***973****)* if thrown by CMS API methods

Implements **activemq::cmsutil::ProducerCallback** (p. 2449).

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**CmsTemplate.h**

6.539 decaf::net::ServerSocket Class Reference

This class implements server sockets.

`#include <src/main/decaf/net/ServerSocket.h>`Inheritance diagram for decaf::net::ServerSocket:

Public Member Functions

- **ServerSocket** ()

  Creates a non-bound server socket.

- **ServerSocket** (int port)

  *Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen.*

- **ServerSocket** (int port, int backlog)

  *Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen.*

- **ServerSocket** (int port, int backlog, const **InetAddress** *address)

  *Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen.*

- virtual ~**ServerSocket** ()

  *Releases socket handle if **close()** (p. 2649) hasn't been called.*

- virtual void **bind** (const std::string &host, int port)

  Bind and listen to given local IPAddress and port, if the address is empty than a valid local address will be chosen, and if the port of 0 than an available open port will be chosen.

- virtual void **bind** (const std::string &host, int port, int backlog)

  Bind and listen to given local IPAddress and port, if the address is empty than a valid local address will be chosen, and if the port of 0 than an available open port will be chosen.

- virtual **Socket** * **accept** ()

  *Listens for a connection request on the bound IPAddress and Port for this **ServerSocket** (p. 2644), the caller blocks until a connection is made.*

- virtual void **close** ()

  Closes the server socket, causing any Threads blocked on an accept call to throw an Exception.

- virtual bool **isClosed** () const
- virtual bool **isBound** () const
- virtual int **getReceiveBufferSize** () const

  Gets the receive buffer size for this socket, SO_ RCVBUF.

- virtual void **setReceiveBufferSize** (int size)

  Sets the receive buffer size for this socket, SO_ RCVBUF.

- virtual bool **getReuseAddress** () const

  Gets the reuse address flag, SO_ REUSEADDR.

- virtual void **setReuseAddress** (bool reuse)

  Sets the reuse address flag, SO_ REUSEADDR.

- virtual int **getSoTimeout** () const

  Gets the timeout for socket operations, SO_ TIMEOUT.

- virtual void **setSoTimeout** (int timeout)

  Sets the timeout for socket operations, SO_ TIMEOUT.

- virtual int **getLocalPort** () const

  *Gets the port number on the Local machine that this **ServerSocket** (p. 2644) is bound to.*

- virtual std::string **toString** () const

Static Public Member Functions

- static void **setSocketImplFactory** (**SocketImplFactory** *factory)

  *Sets the instance of a **SocketImplFactory** (p. 2787) that the **ServerSocket** (p. 2644) class should use when new instances of this class are created.*

Protected Member Functions

- **ServerSocket** (**SocketImpl** *impl)

  *Creates a **ServerSocket** (p. 2644) wrapping the provided **SocketImpl** (p. 2779) instance, this **Socket** (p. 2755) is considered unconnected.*

- virtual void **implAccept** (**Socket** *socket)

  *Virtual method that allows a **ServerSocket** (p. 2644) subclass to override the accept call and provide its own **SocketImpl** (p. 2779) for the socket.*

- virtual int **getDefaultBacklog** ()

  Allows a subclass to override what is considered the default backlog.

- void **checkClosed** () const
- void **ensureCreated** () const
- void **setupSocketImpl** (int port, int backlog, const **InetAddress** *ifAddress)

6.539.1 Detailed Description

This class implements server sockets. A server socket waits for requests to come in over the network.

The actual work of the server socket is performed by an instance of the **SocketImpl** (p. 2779) class. An application can change the socket factory that creates the socket implementation to configure itself to create sockets of a particular type.

Since:

1.0

6.539.2 Constructor & Destructor Documentation

6.539.2.1 decaf::net::ServerSocket::ServerSocket ()

Creates a non-bound server socket.

6.539.2.2 decaf::net::ServerSocket::ServerSocket (int *port*)

Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen. When this constructor is called the size of the backlog queue is set at 50, connections that arrive after the backlog has been reached are refused.

If a **SocketImplFactory** (p. 2787) is registered then the createSocketImpl method on the factory will be called otherwise a default **SocketImpl** (p. 2779) is created.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

Exceptions:

IOException if there is an I/O error while performing this operation.

IllegalArgumentException if the port value is negative or greater than 65535.

6.539.2.3 decaf::net::ServerSocket::ServerSocket (int *port*, int *backlog*)

Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen. When this constructor is called the size of the backlog queue is set at backlog, connections that arrive after the backlog has been reached are refused. If backlog is zero or negative then the default backlog value of 50 is used.

If a **SocketImplFactory** (p. 2787) is registered then the createSocketImpl method on the factory will be called otherwise a default **SocketImpl** (p. 2779) is created.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The the number of incoming connection attempts to queue before connections are refused.

Exceptions:

IOException if there is an I/O error while performing this operation.

IllegalArgumentException if the port value is negative or greater than 65535.

6.539.2.4 decaf::net::ServerSocket::ServerSocket (int *port*, int *backlog*, const InetAddress * *address*)

Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen. If the value of the ifAddress is empty or NULL then the ANY address is used.

When this constructor is called the size of the backlog queue is set at backlog, connections that arrive after the backlog has been reached are refused. If backlog is zero or negative then the default backlog value of 50 is used.

If a **SocketImplFactory** (p. 2787) is registered then the createSocketImpl method on the factory will be called otherwise a default **SocketImpl** (p. 2779) is created.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The the number of incoming connection attempts to queue before connections are refused.

ifAddress The IP Address to bind to on the local machine.

Exceptions:

IOException if there is an I/O error while performing this operation.

IllegalArgumentException if the port value is negative or greater than 65535.

6.539.2.5 virtual decaf::net::ServerSocket::~ServerSocket () [virtual]

Releases socket handle if **close()** (p. 2649) hasn't been called.

6.539.2.6 decaf::net::ServerSocket::ServerSocket (SocketImpl * *impl*) [protected]

Creates a **ServerSocket** (p. 2644) wrapping the provided **SocketImpl** (p. 2779) instance, this **Socket** (p. 2755) is considered unconnected. The **ServerSocket** (p. 2644) class takes ownership of this **SocketImpl** (p. 2779) pointer and will delete it when the **Socket** (p. 2755) class is destroyed.

Parameters:

impl The **SocketImpl** (p. 2779) instance to wrap.

Exceptions:

NullPointerException if the passed **SocketImpl** (p. 2779) is Null.

6.539.3 Member Function Documentation

6.539.3.1 virtual Socket* decaf::net::ServerSocket::accept () [virtual]

Listens for a connection request on the bound IPAddress and Port for this **ServerSocket** (p. 2644), the caller blocks until a connection is made. If the SO_TIMEOUT option is set this method could throw a **SocketTimeoutException** (p. 2792) if the operation times out.

Returns:

a new **Socket** (p. 2755) object pointer. Never returns NULL, the returned pointer is owned by the caller and must be explicitly freed by them.

Exceptions:

IOException if an I/O error occurs while binding the socket.

SocketException *(p. 2772)* if an error occurs while blocking on the accept call.

SocketTimeoutException *(p. 2792)* if the SO_TIMEOUT option was used and the accept timed out.

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2271).

6.539.3.2 virtual void decaf::net::ServerSocket::bind (const std::string & *host*, int *port*, int *backlog*) [virtual]

Bind and listen to given local IPAddress and port, if the address is empty than a valid local address will be chosen, and if the port of 0 than an available open port will be chosen. If the backlog is greater than zero it will be used instead of the default value, otherwise the default value is used and no error is generated.

Parameters:

host The IP address or host name.

port The TCP port between 1..655535.

backlog The size of listen backlog.

Exceptions:

IOException if an I/O error occurs while binding the socket.

IllegalArgumentException if the parameters are not valid.

6.539.3.3 virtual void decaf::net::ServerSocket::bind (const std::string & *host*, int *port*) [virtual]

Bind and listen to given local IPAddress and port, if the address is empty than a valid local address will be chosen, and if the port of 0 than an available open port will be chosen.

Parameters:

host The IP address or host name.

port The TCP port between 1..655535.

Exceptions:

IOException if an I/O error occurs while binding the socket.

IllegalArgumentException if the parameters are not valid.

6.539.3.4 void decaf::net::ServerSocket::checkClosed () const [protected]

6.539.3.5 virtual void decaf::net::ServerSocket::close () [virtual]

Closes the server socket, causing any Threads blocked on an accept call to throw an Exception.

Exceptions:

IOException if an I/O error occurs while performing this operation.

6.539.3.6 void decaf::net::ServerSocket::ensureCreated () const [protected]

6.539.3.7 virtual int decaf::net::ServerSocket::getDefaultBacklog () [protected, virtual]

Allows a subclass to override what is considered the default backlog.

Returns:

the default backlog for connections.

6.539.3.8 virtual int decaf::net::ServerSocket::getLocalPort () const [virtual]

Gets the port number on the Local machine that this **ServerSocket** (p. 2644) is bound to.

Returns:

the port number of this machine that is bound, if not bound returns -1.

6.539.3.9 virtual int decaf::net::ServerSocket::getReceiveBufferSize () const [virtual]

Gets the receive buffer size for this socket, SO_RCVBUF. This is the buffer used by the underlying platform socket to buffer received data.

Returns:

the receive buffer size in bytes.

Exceptions:

SocketException *(p. 2772)* if the operation fails.

6.539.3.10 virtual bool decaf::net::ServerSocket::getReuseAddress () const [virtual]

Gets the reuse address flag, SO_REUSEADDR.

Returns:

True if the address can be reused.

Exceptions:

SocketException *(p. 2772)* if the operation fails.

6.539.3.11 virtual int decaf::net::ServerSocket::getSoTimeout () const [virtual]

Gets the timeout for socket operations, SO_TIMEOUT.

Returns:

The timeout in milliseconds for socket operations.

Exceptions:

SocketException *(p. 2772)* Thrown if unable to retrieve the information.

6.539.3.12 virtual void decaf::net::ServerSocket::implAccept (Socket * *socket*) [protected, virtual]

Virtual method that allows a **ServerSocket** (p. 2644) subclass to override the accept call and provide its own **SocketImpl** (p. 2779) for the socket.

Parameters:

socket The socket object whose **SocketImpl** (p. 2779) should be used for the accept call.

Exceptions:

IOException if an I/O error occurs while performing this operation.

6.539.3.13 virtual bool decaf::net::ServerSocket::isBound () const [virtual]

Returns:

true of the server socket is bound.

6.539.3.14 virtual bool decaf::net::ServerSocket::isClosed () const [virtual]

Returns:

true if the close method has been called on the **ServerSocket** (p. 2644).

6.539.3.15 virtual void decaf::net::ServerSocket::setReceiveBufferSize (int *size*) [virtual]

Sets the receive buffer size for this socket, SO_RCVBUF.

Parameters:

size Number of bytes to set the receive buffer to.

Exceptions:

SocketException *(p. 2772)* if the operation fails.

IllegalArgumentException if the value is zero or negative.

6.539.3.16 virtual void decaf::net::ServerSocket::setReuseAddress (bool *reuse*) [virtual]

Sets the reuse address flag, SO_REUSEADDR.

Parameters:

reuse If true, sets the flag.

Exceptions:

SocketException *(p. 2772)* if the operation fails.

6.539.3.17 static void decaf::net::ServerSocket::setSocketImplFactory (SocketImplFactory * *factory*) [static]

Sets the instance of a **SocketImplFactory** (p. 2787) that the **ServerSocket** (p. 2644) class should use when new instances of this class are created. This method is only allowed to be used once during the lifetime of the application.

Parameters:

factory The instance of a **SocketImplFactory** (p. 2787) to use when new **SocketImpl** (p. 2779) objects are created.

Exceptions:

IOException if an I/O error occurs while performing this operation.

SocketException *(p. 2772)* if this method has already been called with a valid factory.

6.539.3.18 virtual void decaf::net::ServerSocket::setSoTimeout (int *timeout*) [virtual]

Sets the timeout for socket operations, SO_TIMEOUT. A value of zero indicates that timeout is infinite for operations on this socket.

Parameters:

timeout The timeout in milliseconds for socket operations.

Exceptions:

SocketException *(p. 2772)* Thrown if unable to set the information.

IllegalArgumentException if the timeout value is negative.

6.539.3.19 void decaf::net::ServerSocket::setupSocketImpl (int *port*, int *backlog*, const InetAddress * *ifAddress*) [protected]

6.539.3.20 virtual std::string decaf::net::ServerSocket::toString () const [virtual]

Returns:

a string representing this **ServerSocket** (p. 2644).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**ServerSocket.h**

6.540 decaf::net::ServerSocketFactory Class Reference

Class used to create Server Sockets, subclasses can be created that create certain types of server sockets according to specific policies.

`#include <src/main/decaf/net/ServerSocketFactory.h>`Inheritance diagram for decaf::net::ServerSocketFactory:

Public Member Functions

- virtual ~**ServerSocketFactory** ()
- virtual **ServerSocket** * **createServerSocket** ()

  *Create a new **ServerSocket** (p. 2644) that is unbound.*

- virtual **ServerSocket** * **createServerSocket** (int port)=0

  *Create a new **ServerSocket** (p. 2644) that is bound to the given port.*

- virtual **ServerSocket** * **createServerSocket** (int port, int backlog)=0

  *Create a new **ServerSocket** (p. 2644) that is bound to the given port.*

- virtual **ServerSocket** * **createServerSocket** (int port, int backlog, const **InetAddress** *address)=0

  *Create a new **ServerSocket** (p. 2644) that is bound to the given port.*

Static Public Member Functions

- static **ServerSocketFactory** * **getDefault** ()

  *Returns the Default **ServerSocket** (p. 2644) factory, the pointer is owned by the Decaf runtime and should not be deleted by the caller.*

Protected Member Functions

- **ServerSocketFactory** ()

6.540.1 Detailed Description

Class used to create Server Sockets, subclasses can be created that create certain types of server sockets according to specific policies.

Since:

1.0

6.540.2 Constructor & Destructor Documentation

6.540.2.1 decaf::net::ServerSocketFactory::ServerSocketFactory () [protected]

6.540.2.2 virtual decaf::net::ServerSocketFactory::~ServerSocketFactory () [virtual]

6.540.3 Member Function Documentation

6.540.3.1 virtual ServerSocket* decaf::net::ServerSocketFactory::createServerSocket (int *port*, int *backlog*, const InetAddress * *address*) [pure virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port. The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will bind to the specified interface on the local host, and accept connections only on that interface. If the address parameter is NULL than the **ServerSocket** (p. 2644) will listen on all interfaces.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The number of pending connect request the **ServerSocket** (p. 2644) can queue.

address The address of the interface on the local machine to bind to.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implemented in **decaf::internal::net::DefaultServerSocketFactory** (p. 1322), **decaf::internal::net::ssl::DefaultSSLServerSocketFactory** (p. 1332), and **decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory** (p. 2277).

6.540.3.2 virtual ServerSocket* decaf::net::ServerSocketFactory::createServerSocket (int *port*, int *backlog*) [pure virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port. The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory. The **ServerSocket** (p. 2644) will use the specified connection backlog setting.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The number of pending connect request the **ServerSocket** (p. 2644) can queue.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implemented in **decaf::internal::net::DefaultServerSocketFactory** (p. 1323), **decaf::internal::net::ssl::DefaultSSLServerSocketFactory** (p. 1332), and **decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory** (p. 2277).

6.540.3.3 virtual ServerSocket* decaf::net::ServerSocketFactory::createServerSocket (int *port*) [pure virtual]

Create a new **ServerSocket** (p. 2644) that is bound to the given port. The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Implemented in **decaf::internal::net::DefaultServerSocketFactory** (p. 1323), **decaf::internal::net::ssl::DefaultSSLServerSocketFactory** (p. 1333), and **decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory** (p. 2278).

6.540.3.4 virtual ServerSocket* decaf::net::ServerSocketFactory::createServerSocket () [virtual]

Create a new **ServerSocket** (p. 2644) that is unbound. The **ServerSocket** (p. 2644) will have been configured with the defaults from the factory.

Returns:

new **ServerSocket** (p. 2644) pointer that is owned by the caller.

Exceptions:

IOException if the **ServerSocket** (p. 2644) cannot be created for some reason.

Reimplemented in **decaf::internal::net::DefaultServerSocketFactory** (p. 1324), **decaf::internal::net::ssl::DefaultSSLServerSocketFactory** (p. 1333), and **decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory** (p. 2278).

6.540.3.5 static ServerSocketFactory* decaf::net::ServerSocketFactory::getDefault () [static]

Returns the Default **ServerSocket** (p. 2644) factory, the pointer is owned by the Decaf runtime and should not be deleted by the caller. Only one default **ServerSocketFactory** (p. 2653) exists for the lifetime of the Application.

Returns:

the default **ServerSocketFactory** (p. 2653) for this application.

Reimplemented in **decaf::net::ssl::SSLServerSocketFactory** (p. 2811).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**ServerSocketFactory.h**

6.541 activemq::util::Service Class Reference

Base interface for all classes that run as a **Service** (p. 2657) inside the application.

`#include <src/main/activemq/util/Service.h>`Inheritance diagram for activemq::util::Service:

Public Member Functions

- virtual ~**Service** ()
- virtual void **start** ()=0
- virtual void **stop** ()=0

6.541.1 Detailed Description

Base interface for all classes that run as a **Service** (p. 2657) inside the application.

Since:

3.3.0

6.541.2 Constructor & Destructor Documentation

6.541.2.1 virtual activemq::util::Service::~Service () [virtual]

6.541.3 Member Function Documentation

6.541.3.1 virtual void activemq::util::Service::start () [pure virtual]

Implemented in **activemq::util::ServiceSupport** (p. 2664).

6.541.3.2 virtual void activemq::util::Service::stop () [pure virtual]

Implemented in **activemq::util::ServiceSupport** (p. 2664).

The documentation for this class was generated from the following file:

- src/main/activemq/util/**Service.h**

6.542 activemq::util::ServiceListener Class Reference

Listener interface for observers of **Service** (p. 2657) related events.

`#include <src/main/activemq/util/ServiceListener.h>`

Public Member Functions

- virtual ~**ServiceListener** ()
- virtual void **started** (const **Service** *target)=0

  indicates that the target service has completed its start operation.

- virtual void **stopped** (const **Service** *target)=0

  indicates that the target service has completed its stop operation.

6.542.1 Detailed Description

Listener interface for observers of **Service** (p. 2657) related events.

Since:

3.3.0

6.542.2 Constructor & Destructor Documentation

6.542.2.1 virtual activemq::util::ServiceListener::~ServiceListener () [virtual]

6.542.3 Member Function Documentation

6.542.3.1 virtual void activemq::util::ServiceListener::started (const Service * *target*) [pure virtual]

indicates that the target service has completed its start operation.

Parameters:

target The service that triggered this notification.

6.542.3.2 virtual void activemq::util::ServiceListener::stopped (const Service * *target*) [pure virtual]

indicates that the target service has completed its stop operation.

Parameters:

target The service that triggered this notification.

The documentation for this class was generated from the following file:

- src/main/activemq/util/**ServiceListener.h**

6.543 decaf::internal::security::ServiceRegistry Class Reference

Serves as a registry for all the Providers for services using the naming format of "ServiceName.Algorithm".

`#include <src/main/decaf/internal/security/ServiceRegistry.h>`

Public Member Functions

- **ServiceRegistry** ()
- virtual ~**ServiceRegistry** ()
- void **addProvider** (const **decaf::security::Provider** *provider)

  Adds the Provider into the registry so that its services can be looked up by the registry clients.

- **decaf::security::ProviderService** * **getService** (const std::string &name)

  Attempts to locate a ProviderService implementation for the named service and return a new instance of the service.

6.543.1 Detailed Description

Serves as a registry for all the Providers for services using the naming format of "ServiceName.Algorithm".

6.543.2 Constructor & Destructor Documentation

6.543.2.1 decaf::internal::security::ServiceRegistry::ServiceRegistry ()

6.543.2.2 virtual decaf::internal::security::ServiceRegistry::~ServiceRegistry () [virtual]

6.543.3 Member Function Documentation

6.543.3.1 void decaf::internal::security::ServiceRegistry::addProvider (const decaf::security::Provider * *provider*)

Adds the Provider into the registry so that its services can be looked up by the registry clients.

Parameters:

provider *(p. 104)* The instance of the Provider which is to be added to the registry

6.543.3.2 decaf::security::ProviderService* decaf::internal::security::ServiceRegistry::getService (const std::string & *name*)

Attempts to locate a ProviderService implementation for the named service and return a new instance of the service. If no service exists for the given name this method returns NULL.

Parameters:

name The name of the service to find, format is "serviceName.algorithmName"

Returns:

a caller owned pointer to a new ProviderService for the named service.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/security/**ServiceRegistry.h**

6.544 activemq::util::ServiceStopper Class Reference

`#include <src/main/activemq/util/ServiceStopper.h>`

Public Member Functions

- **ServiceStopper** ()
- virtual ~**ServiceStopper** ()
- void **stop** (**Service** *service)
- void **throwFirstException** ()
- virtual void **onException** (**Service** *service, **decaf::lang::Exception** &ex)

6.544.1 Constructor & Destructor Documentation

6.544.1.1 activemq::util::ServiceStopper::ServiceStopper ()

6.544.1.2 virtual activemq::util::ServiceStopper::~ServiceStopper () [virtual]

6.544.2 Member Function Documentation

6.544.2.1 virtual void activemq::util::ServiceStopper::onException (Service * *service*, decaf::lang::Exception & *ex*) [virtual]

6.544.2.2 void activemq::util::ServiceStopper::stop (Service * *service*)

6.544.2.3 void activemq::util::ServiceStopper::throwFirstException ()

The documentation for this class was generated from the following file:

- src/main/activemq/util/**ServiceStopper.h**

6.545 activemq::util::ServiceSupport Class Reference

Provides a base class for **Service** (p. 2657) implementations.

`#include <src/main/activemq/util/ServiceSupport.h>`Inheritance diagram for activemq::util::ServiceSupport:

Public Member Functions

- **ServiceSupport** (const **ServiceSupport** &)
- **ServiceSupport** & **operator=** (const **ServiceSupport** &)
- **ServiceSupport** ()
- virtual ~**ServiceSupport** ()
- void **start** ()

  *Starts the **Service** (p. 2657), notifying any registered listeners of the start if it is successful.*

- void **stop** ()

  *Stops the **Service** (p. 2657).*

- bool **isStarted** () const
- bool **isStopping** () const
- bool **isStopped** () const
- void **addServiceListener** (**ServiceListener** *listener)

  Adds the given listener to this Service's list of listeners, call retains ownership of the pointer.

- void **removeServiceListener** (**ServiceListener** *llistener)

  Removes the given listener to this Service's list of listeners, call retains ownership of the pointer.

Static Public Member Functions

- static void **dispose** (**Service** *service)

  Safely shuts down a service.

Protected Member Functions

- virtual void **doStop** (**ServiceStopper** *stopper)=0

  Performs the actual stop operation on the service, ensuring that all resources held are released, must be implemented in derived class.

- virtual void **doStart** ()=0

  Performs the actual start operation on the service, acquiring all the resources needed to run the service.

6.545.1 Detailed Description

Provides a base class for **Service** (p. 2657) implementations.

Since:

3.3.0

6.545.2 Constructor & Destructor Documentation

6.545.2.1 activemq::util::ServiceSupport::ServiceSupport (const ServiceSupport &)

6.545.2.2 activemq::util::ServiceSupport::ServiceSupport ()

6.545.2.3 virtual activemq::util::ServiceSupport::~ServiceSupport () [virtual]

6.545.3 Member Function Documentation

6.545.3.1 void activemq::util::ServiceSupport::addServiceListener (ServiceListener * *listener*)

Adds the given listener to this Service's list of listeners, call retains ownership of the pointer.

6.545.3.2 static void activemq::util::ServiceSupport::dispose (Service * *service*) [static]

Safely shuts down a service.

Parameters:

service The service to stop.

6.545.3.3 virtual void activemq::util::ServiceSupport::doStart () [protected, pure virtual]

Performs the actual start operation on the service, acquiring all the resources needed to run the service. Must be implemented in derived class.

Implemented in **activemq::threads::Scheduler** (p. 2616).

6.545.3.4 virtual void activemq::util::ServiceSupport::doStop (ServiceStopper * *stopper*) [protected, pure virtual]

Performs the actual stop operation on the service, ensuring that all resources held are released, must be implemented in derived class.

Implemented in **activemq::threads::Scheduler** (p. 2616).

6.545.3.5 bool activemq::util::ServiceSupport::isStarted () const

Returns:

true if this service has been started

6.545.3.6 bool activemq::util::ServiceSupport::isStopped () const

Returns:

true if this service is closed

6.545.3.7 bool activemq::util::ServiceSupport::isStopping () const

Returns:

true if this service is in the process of closing

6.545.3.8 ServiceSupport& activemq::util::ServiceSupport::operator= (const ServiceSupport &)

6.545.3.9 void activemq::util::ServiceSupport::removeServiceListener (ServiceListener * *llistener*)

Removes the given listener to this Service's list of listeners, call retains ownership of the pointer.

6.545.3.10 void activemq::util::ServiceSupport::start () [virtual]

Starts the **Service** (p. 2657), notifying any registered listeners of the start if it is successful.

Implements **activemq::util::Service** (p. 2657).

6.545.3.11 void activemq::util::ServiceSupport::stop () [virtual]

Stops the **Service** (p. 2657).

Implements **activemq::util::Service** (p. 2657).

The documentation for this class was generated from the following file:

- src/main/activemq/util/**ServiceSupport.h**

6.546 cms::Session Class Reference

A **Session** (p. 2665) object is a single-threaded context for producing and consuming messages.

`#include <src/main/cms/Session.h>`Inheritance diagram for cms::Session:

Public Types

- enum **AcknowledgeMode** {
  AUTO_ACKNOWLEDGE, **DUPS_OK_ACKNOWLEDGE**, **CLIENT_ACKNOWLEDGE**, **SESSION_TRANSACTED**,
  INDIVIDUAL_ACKNOWLEDGE }

Public Member Functions

- virtual ~**Session** ()
- virtual void **close** ()=0

  Closes this session as well as any active child consumers or producers.

- virtual void **commit** ()=0

  Commits all messages done in this transaction and releases any locks currently held.

- virtual void **rollback** ()=0

  Rolls back all messages done in this transaction and releases any locks currently held.

- virtual void **recover** ()=0

  Stops message delivery in this session, and restarts message delivery with the oldest unacknowledged message.

- virtual **MessageConsumer** * **createConsumer** (const **Destination** *destination)=0

  *Creates a **MessageConsumer** (p. 2114) for the specified destination.*

- virtual **MessageConsumer** * **createConsumer** (const **Destination** *destination, const std::string &selector)=0

  *Creates a **MessageConsumer** (p. 2114) for the specified destination, using a message selector.*

- virtual **MessageConsumer** * **createConsumer** (const **Destination** *destination, const std::string &selector, bool noLocal)=0

  *Creates a **MessageConsumer** (p. 2114) for the specified destination, using a message selector.*

- virtual **MessageConsumer** * **createDurableConsumer** (const **Topic** *destination, const std::string &name, const std::string &selector, bool noLocal=false)=0

  *Creates a durable subscriber to the specified topic, using a **Message** (p. 2077) selector.*

- virtual **MessageProducer** * **createProducer** (const **Destination** *destination=NULL)=0

  *Creates a **MessageProducer** (p. 2179) to send messages to the specified destination.*

- virtual **QueueBrowser** * **createBrowser** (const **cms::Queue** *queue)=0

  *Creates a new **QueueBrowser** (p. 2504) to peek at Messages on the given **Queue** (p. 2499).*

- virtual **QueueBrowser** * **createBrowser** (const **cms::Queue** *queue, const std::string &selector)=0

  *Creates a new **QueueBrowser** (p. 2504) to peek at Messages on the given **Queue** (p. 2499).*

- virtual **Queue** * **createQueue** (const std::string &queueName)=0

  *Creates a queue identity given a **Queue** (p. 2499) name.*

- virtual **Topic** * **createTopic** (const std::string &topicName)=0

  *Creates a topic identity given a **Queue** (p. 2499) name.*

- virtual **TemporaryQueue** * **createTemporaryQueue** ()=0

  *Creates a **TemporaryQueue** (p. 2996) object.*

- virtual **TemporaryTopic** * **createTemporaryTopic** ()=0

  *Creates a **TemporaryTopic** (p. 2997) object.*

- virtual **Message** * **createMessage** ()=0

  *Creates a new **Message** (p. 2077).*

- virtual **BytesMessage** * **createBytesMessage** ()=0

  *Creates a **BytesMessage** (p. 851).*

- virtual **BytesMessage** * **createBytesMessage** (const unsigned char *bytes, int bytesSize)=0

  *Creates a **BytesMessage** (p. 851) and sets the payload to the passed value.*

- virtual **StreamMessage** * **createStreamMessage** ()=0

  *Creates a new **StreamMessage** (p. 2907).*

- virtual **TextMessage** * **createTextMessage** ()=0

  *Creates a new **TextMessage** (p. 2998).*

- virtual **TextMessage** * **createTextMessage** (const std::string &text)=0

  *Creates a new **TextMessage** (p. 2998) and set the text to the value given.*

- virtual **MapMessage** * **createMapMessage** ()=0

  *Creates a new **MapMessage** (p. 2011).*

- virtual **AcknowledgeMode** **getAcknowledgeMode** () const =0

  Returns the acknowledgment mode of the session.

- virtual bool **isTransacted** () const =0

  *Gets if the Sessions is a Transacted **Session** (p. 2665).*

- virtual void **unsubscribe** (const std::string &name)=0

  Unsubscribes a durable subscription that has been created by a client.

- virtual void **setMessageTransformer** (**cms::MessageTransformer** *transformer)=0

  *Set an **MessageTransformer** (p. 2206) instance that is passed on to all **MessageProducer** (p. 2179) and **MessageConsumer** (p. 2114) objects created from this **Session** (p. 2665).*

- virtual **cms::MessageTransformer** * **getMessageTransformer** () const =0

  *Gets the currently configured **MessageTransformer** (p. 2206) for this **Session** (p. 2665).*

6.546.1 Detailed Description

A **Session** (p. 2665) object is a single-threaded context for producing and consuming messages. A session serves several purposes:

- It is a factory for its message producers and consumers.
- It supplies provider-optimized message factories.
- It is a factory for TemporaryTopics and TemporaryQueues.
- It provides a way to create **Queue** (p. 2499) or **Topic** (p. 3080) objects for those clients that need to dynamically manipulate provider-specific destination names.
- It supports a single series of transactions that combine work spanning its producers and consumers into atomic units.
- It defines a serial order for the messages it consumes and the messages it produces.
- It retains messages it consumes until they have been acknowledged.
- It serializes execution of message listeners registered with its message consumers.

A session can create and service multiple message producers and consumers.

One typical use is to have a thread block on a synchronous **MessageConsumer** (p. 2114) until a message arrives. The thread may then use one or more of the Session's MessageProducers.

If a client desires to have one thread produce messages while others consume them, the client should use a separate session for its producing thread.

Certain rules apply to a session's `close` method and are detailed below.

- There is no need to close the producers and consumers of a closed session.
- The close call will block until a receive call or message listener in progress has completed. A blocked message consumer receive call returns null when this session is closed.
- Closing a transacted session must roll back the transaction in progress.
- The close method is the only **Session** (p. 2665) method that can be called concurrently.
- Invoking any other **Session** (p. 2665) method on a closed session must throw an **IllegalStateException** (p. 1645). Closing a closed session must not throw any exceptions.

Transacted Sessions

When a **Session** (p. 2665) is created it can be set to operate in a Transaction based mode. Each **Session** (p. 2665) then operates in a single transaction for all Producers and Consumers of that

Session (p. 2665). Messages sent and received within a Transaction are grouped into an atomic unit that is committed or rolled back together.

For a **MessageProducer** (p. 2179) this implies that all messages sent by the producer are not sent to the Provider unit the commit call is made. Rolling back the Transaction results in all produced Messages being dropped.

For a **MessageConsumer** (p. 2114) this implies that all received messages are not Acknowledged until the Commit call is made. Rolling back the Transaction results in all Consumed **Message** (p. 2077) being redelivered to the client, the Provider may allow configuration that limits the Maximum number of redeliveries for a **Message** (p. 2077).

While the **Session** (p. 2665) interface implements the **Startable** (p. 2836) and **Stoppable** (p. 2903) interfaces it is not required to implement these methods and can throw an UnsupportedOperation exception if they are not available for the given CMS provider.

Since:

1.0

6.546.2 Member Enumeration Documentation

6.546.2.1 enum cms::Session::AcknowledgeMode

Enumerator:

AUTO_ACKNOWLEDGE With this acknowledgment mode, the session automatically acknowledges a client's receipt of a message either when the session has successfully returned from a call to receive or when the message listener the session has called to process the message successfully returns.

DUPS_OK_ACKNOWLEDGE With this acknowledgment mode, the session automatically acknowledges a client's receipt of a message either when the session has successfully returned from a call to receive or when the message listener the session has called to process the message successfully returns. Acknowledgments may be delayed in this mode to increase performance at the cost of the message being redelivered this client fails.

CLIENT_ACKNOWLEDGE With this acknowledgment mode, the client acknowledges a consumed message by calling the message's acknowledge method.

SESSION_TRANSACTED Messages will be consumed when the transaction commits.

INDIVIDUAL_ACKNOWLEDGE **Message** (p. 2077) will be acknowledged individually. Normally the acks sent acknowledge the given message and all messages received before it, this mode only acknowledges one message.

6.546.3 Constructor & Destructor Documentation

6.546.3.1 virtual cms::Session::~Session () [virtual]

6.546.4 Member Function Documentation

6.546.4.1 virtual void cms::Session::close () [pure virtual]

Closes this session as well as any active child consumers or producers.

Exceptions:

CMSException *(*p. ***973***) - If an internal error occurs.

Implements **cms::Closeable** (p. 959).

Implemented in **activemq::cmsutil::PooledSession** (p. 2367), **activemq::core::ActiveMQSession** (p. 429), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 450).

6.546.4.2 virtual void cms::Session::commit () [pure virtual]

Commits all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException *(*p. ***973***) - If an internal error occurs.

IllegalStateException *(*p. ***1645***) - if the method is not called by a transacted session.

Implemented in **activemq::cmsutil::PooledSession** (p. 2368), **activemq::core::ActiveMQSession** (p. 430), **activemq::core::ActiveMQXASession** (p. 542), **activemq::core::kernels::ActiveMQSessionKernel** (p. 451), and **activemq::core::kernels::ActiveMQXASessionKernel** (p. 544).

Referenced by activemq::cmsutil::PooledSession::commit().

6.546.4.3 virtual QueueBrowser* cms::Session::createBrowser (const cms::Queue * *queue*, const std::string & *selector*) [pure virtual]

Creates a new **QueueBrowser** (p. 2504) to peek at Messages on the given **Queue** (p. 2499).

Parameters:

queue the **Queue** (p. 2499) to browse

selector the **Message** (p. 2077) selector to filter which messages are browsed.

Returns:

New **QueueBrowser** (p. 2504) that is owned by the caller.

Exceptions:

CMSException *(*p. ***973***) - If an internal error occurs.

InvalidDestinationException *(*p. ***1761***) - if the destination given is invalid.

Implemented in **activemq::cmsutil::PooledSession** (p. 2368), **activemq::core::ActiveMQSession** (p. 430), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 451).

6.546.4.4 virtual QueueBrowser* cms::Session::createBrowser (const cms::Queue * *queue*) [pure virtual]

Creates a new **QueueBrowser** (p. 2504) to peek at Messages on the given **Queue** (p. 2499).

Parameters:

queue the **Queue** (p. 2499) to browse

Returns:

New **QueueBrowser** (p. 2504) that is owned by the caller.

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

InvalidDestinationException *(p. **1761**)* - if the destination given is invalid.

Implemented in **activemq::cmsutil::PooledSession** (p. 2368), **activemq::core::ActiveMQSession** (p. 430), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 451).

6.546.4.5 virtual BytesMessage* cms::Session::createBytesMessage (const unsigned char * *bytes*, int *bytesSize*) [pure virtual]

Creates a **BytesMessage** (p. 851) and sets the payload to the passed value.

Parameters:

bytes an array of bytes to set in the message

bytesSize the size of the bytes array, or number of bytes to use

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2369), **activemq::core::ActiveMQSession** (p. 431), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 452).

6.546.4.6 virtual BytesMessage* cms::Session::createBytesMessage () [pure virtual]

Creates a **BytesMessage** (p. 851).

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2369), **activemq::core::ActiveMQSession** (p. 431), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 452).

Referenced by activemq::cmsutil::PooledSession::createBytesMessage().

6.546.4.7 virtual MessageConsumer* cms::Session::createConsumer (const Destination * *destination*, const std::string & *selector*, bool *noLocal*) [pure virtual]

Creates a **MessageConsumer** (p. 2114) for the specified destination, using a message selector.

Parameters:

destination the **Destination** (p. 1371) that this consumer receiving messages for.

selector the **Message** (p. 2077) Selector to use

noLocal if true, and the destination is a topic, inhibits the delivery of messages published by its own connection. The behavior for NoLocal is not specified if the destination is a queue.

Returns:

pointer to a new **MessageConsumer** (p. 2114) that is owned by the caller (caller deletes)

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

InvalidDestinationException *(p. **1761**)* - if an invalid destination is specified.

InvalidSelectorException *(p. **1769**)* - if the message selector is invalid.

Implemented in **activemq::cmsutil::PooledSession** (p. 2370), **activemq::core::ActiveMQSession** (p. 431), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 452).

6.546.4.8 virtual MessageConsumer* cms::Session::createConsumer (const Destination * *destination*, const std::string & *selector*) [pure virtual]

Creates a **MessageConsumer** (p. 2114) for the specified destination, using a message selector.

Parameters:

destination the **Destination** (p. 1371) that this consumer receiving messages for.

selector the **Message** (p. 2077) Selector to use

Returns:

pointer to a new **MessageConsumer** (p. 2114) that is owned by the caller (caller deletes)

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

InvalidDestinationException *(p. **1761**)* - if an invalid destination is specified.

InvalidSelectorException *(p. **1769**)* - if the message selector is invalid.

Implemented in **activemq::cmsutil::PooledSession** (p. 2370), **activemq::core::ActiveMQSession** (p. 432), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 453).

6.546.4.9 virtual MessageConsumer* cms::Session::createConsumer (const Destination * *destination*) [pure virtual]

Creates a **MessageConsumer** (p. 2114) for the specified destination.

Parameters:

destination the **Destination** (p. 1371) that this consumer receiving messages for.

Returns:

pointer to a new **MessageConsumer** (p. 2114) that is owned by the caller (caller deletes)

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

InvalidDestinationException *(p. **1761**)* - if an invalid destination is specified.

Implemented in **activemq::cmsutil::PooledSession** (p. 2371), **activemq::core::ActiveMQSession** (p. 432), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 453).

Referenced by activemq::cmsutil::PooledSession::createConsumer().

6.546.4.10 virtual MessageConsumer* cms::Session::createDurableConsumer (const Topic * *destination*, const std::string & *name*, const std::string & *selector*, bool *noLocal* = `false`) `[pure virtual]`

Creates a durable subscriber to the specified topic, using a **Message** (p. 2077) selector. Sessions that create durable consumers must use the same client Id as was used the last time the subscription was created in order to receive all messages that were delivered while the client was offline.

Parameters:

destination the topic to subscribe to

name The name used to identify the subscription

selector the **Message** (p. 2077) Selector to use

noLocal if true, and the destination is a topic, inhibits the delivery of messages published by its own connection. The behavior for NoLocal is not specified if the destination is a queue.

Returns:

pointer to a new durable **MessageConsumer** (p. 2114) that is owned by the caller (caller deletes)

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

InvalidDestinationException *(p. **1761**)* - if an invalid destination is specified.

InvalidSelectorException *(p. **1769**)* - if the message selector is invalid.

Implemented in **activemq::cmsutil::PooledSession** (p. 2371), **activemq::core::ActiveMQSession** (p. 432), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 454).

Referenced by activemq::cmsutil::PooledSession::createDurableConsumer().

6.546.4.11 virtual MapMessage* cms::Session::createMapMessage () `[pure virtual]`

Creates a new **MapMessage** (p. 2011).

Exceptions:

CMSException *(*p. ***973****)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2372), **activemq::core::ActiveMQSession** (p. 433), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 454).

Referenced by activemq::cmsutil::PooledSession::createMapMessage().

6.546.4.12 virtual Message* cms::Session::createMessage () [pure virtual]

Creates a new **Message** (p. 2077).

Exceptions:

CMSException *(*p. ***973****)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2372), **activemq::core::ActiveMQSession** (p. 433), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 454).

Referenced by activemq::cmsutil::PooledSession::createMessage().

6.546.4.13 virtual MessageProducer* cms::Session::createProducer (const Destination * *destination* = NULL) [pure virtual]

Creates a **MessageProducer** (p. 2179) to send messages to the specified destination.

Parameters:

destination the **Destination** (p. 1371) to send on

Returns:

New **MessageProducer** (p. 2179) that is owned by the caller.

Exceptions:

CMSException *(*p. ***973****)* - If an internal error occurs.

InvalidDestinationException *(*p. ***1761****)* - if an invalid destination is specified.

Implemented in **activemq::cmsutil::PooledSession** (p. 2372), **activemq::core::ActiveMQSession** (p. 433), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 455).

Referenced by activemq::cmsutil::PooledSession::createProducer().

6.546.4.14 virtual Queue* cms::Session::createQueue (const std::string & *queueName*) [pure virtual]

Creates a queue identity given a **Queue** (p. 2499) name.

Parameters:

queueName the name of the new **Queue** (p. 2499)

Returns:

new **Queue** (p. 2499) pointer that is owned by the caller.

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2373), **activemq::core::ActiveMQSession** (p. 434), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 455).

Referenced by activemq::cmsutil::PooledSession::createQueue().

6.546.4.15 virtual StreamMessage* cms::Session::createStreamMessage () [pure virtual]

Creates a new **StreamMessage** (p. 2907).

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2373), **activemq::core::ActiveMQSession** (p. 434), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 455).

Referenced by activemq::cmsutil::PooledSession::createStreamMessage().

6.546.4.16 virtual TemporaryQueue* cms::Session::createTemporaryQueue () [pure virtual]

Creates a **TemporaryQueue** (p. 2996) object.

Returns:

new **TemporaryQueue** (p. 2996) pointer that is owned by the caller.

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2373), **activemq::core::ActiveMQSession** (p. 434), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 456).

Referenced by activemq::cmsutil::PooledSession::createTemporaryQueue().

6.546.4.17 virtual TemporaryTopic* cms::Session::createTemporaryTopic () [pure virtual]

Creates a **TemporaryTopic** (p. 2997) object.

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2374), **activemq::core::ActiveMQSession** (p. 435), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 456).

Referenced by activemq::cmsutil::PooledSession::createTemporaryTopic().

6.546.4.18 virtual TextMessage* cms::Session::createTextMessage (const std::string & *text*) [pure virtual]

Creates a new **TextMessage** (p. 2998) and set the text to the value given.

Parameters:

text the initial text for the message

Exceptions:

CMSException (p. ***973***) - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2374), **activemq::core::ActiveMQSession** (p. 435), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 456).

6.546.4.19 virtual TextMessage* cms::Session::createTextMessage () [pure virtual]

Creates a new **TextMessage** (p. 2998).

Exceptions:

CMSException (p. ***973***) - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2374), **activemq::core::ActiveMQSession** (p. 435), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 456).

Referenced by activemq::cmsutil::PooledSession::createTextMessage().

6.546.4.20 virtual Topic* cms::Session::createTopic (const std::string & *topicName*) [pure virtual]

Creates a topic identity given a **Queue** (p. 2499) name.

Parameters:

topicName the name of the new **Topic** (p. 3080)

Returns:

new **Topic** (p. 3080) pointer that is owned by the caller.

Exceptions:

CMSException (p. ***973***) - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2375), **activemq::core::ActiveMQSession** (p. 435), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 457).

Referenced by activemq::cmsutil::PooledSession::createTopic().

6.546.4.21 virtual AcknowledgeMode cms::Session::getAcknowledgeMode () const [pure virtual]

Returns the acknowledgment mode of the session.

Returns:

the Sessions Acknowledge Mode

Exceptions:

CMSException *(*p. ***973****)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2375), **activemq::core::ActiveMQSession** (p. 436), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 458).

Referenced by activemq::cmsutil::PooledSession::getAcknowledgeMode().

6.546.4.22 virtual cms::MessageTransformer* cms::Session::getMessageTransformer () const [pure virtual]

Gets the currently configured **MessageTransformer** (p. 2206) for this **Session** (p. 2665).

Returns:

the pointer to the currently set **cms::MessageTransformer** (p. 2206).

Implemented in **activemq::cmsutil::PooledSession** (p. 2375), **activemq::core::ActiveMQSession** (p. 436), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 459).

Referenced by activemq::cmsutil::PooledSession::getMessageTransformer().

6.546.4.23 virtual bool cms::Session::isTransacted () const [pure virtual]

Gets if the Sessions is a Transacted **Session** (p. 2665).

Returns:

transacted true - false.

Exceptions:

CMSException *(*p. ***973****)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2376), **activemq::core::ActiveMQSession** (p. 437), **activemq::core::ActiveMQXASession** (p. 543), **activemq::core::kernels::ActiveMQSessionKernel** (p. 461), and **activemq::core::kernels::ActiveMQXASessionKernel** (p. 545).

Referenced by activemq::cmsutil::PooledSession::isTransacted().

6.546.4.24 virtual void cms::Session::recover () [pure virtual]

Stops message delivery in this session, and restarts message delivery with the oldest unacknowledged message. All consumers deliver messages in a serial order. Acknowledging a received message automatically acknowledges all messages that have been delivered to the client.

Restarting a session causes it to take the following actions:

- Stop message delivery
- Mark all messages that might have been delivered but not acknowledged as "redelivered"
- Restart the delivery sequence including all unacknowledged messages that had been previously delivered. Redelivered messages do not have to be delivered in exactly their original delivery order.

Exceptions:

CMSException *(p. 973)* - if the CMS provider fails to stop and restart message delivery due to some internal error.

IllegalStateException *(p. 1645)* - if the method is called by a transacted session.

Implemented in **activemq::cmsutil::PooledSession** (p. 2376), **activemq::core::ActiveMQSession** (p. 437), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 462).

Referenced by activemq::cmsutil::PooledSession::recover().

6.546.4.25 virtual void cms::Session::rollback () [pure virtual]

Rolls back all messages done in this transaction and releases any locks currently held.

Exceptions:

CMSException *(p. 973)* - If an internal error occurs.

IllegalStateException *(p. 1645)* - if the method is not called by a transacted session.

Implemented in **activemq::cmsutil::PooledSession** (p. 2377), **activemq::core::ActiveMQSession** (p. 438), **activemq::core::ActiveMQXASession** (p. 543), **activemq::core::kernels::ActiveMQSessionKernel** (p. 463), and **activemq::core::kernels::ActiveMQXASessionKernel** (p. 546).

Referenced by activemq::cmsutil::PooledSession::rollback().

6.546.4.26 virtual void cms::Session::setMessageTransformer (cms::MessageTransformer * *transformer*) [pure virtual]

Set an **MessageTransformer** (p. 2206) instance that is passed on to all **MessageProducer** (p. 2179) and **MessageConsumer** (p. 2114) objects created from this **Session** (p. 2665). The CMS **code** (p. 999) never takes ownership of the **MessageTransformer** (p. 2206) pointer which implies that the client **code** (p. 999) must ensure that the object remains valid for the lifetime of the CMS object to which the **MessageTransformer** (p. 2206) has been assigned.

Parameters:

transformer Pointer to the **cms::MessageTransformer** (p. 2206) to set on all MessageConsumers and MessageProducers.

Implemented in **activemq::cmsutil::PooledSession** (p. 2377), **activemq::core::ActiveMQSession** (p. 438), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 465).

Referenced by activemq::cmsutil::PooledSession::setMessageTransformer().

6.546.4.27 virtual void cms::Session::unsubscribe (const std::string & *name*) [pure virtual]

Unsubscribes a durable subscription that has been created by a client. This method deletes the state being maintained on behalf of the subscriber by its provider. It is erroneous for a client to delete a durable subscription while there is an active **MessageConsumer** (p. 2114) or Subscriber for the subscription, or while a consumed message is part of a pending transaction or has not been acknowledged in the session.

Parameters:

name The name used to identify this subscription

Exceptions:

CMSException *(p. 973)* - If an internal error occurs.

Implemented in **activemq::cmsutil::PooledSession** (p. 2378), **activemq::core::ActiveMQSession** (p. 438), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 466).

Referenced by activemq::cmsutil::PooledSession::unsubscribe().

The documentation for this class was generated from the following file:

- src/main/cms/**Session.h**

6.547 activemq::cmsutil::SessionCallback Class Reference

Callback for executing any number of operations on a provided CMS Session.

`#include <src/main/activemq/cmsutil/SessionCallback.h>`Inheritance diagram for activemq::cmsutil::SessionCallback:

Public Member Functions

- virtual ~**SessionCallback** ()
- virtual void **doInCms** (**cms::Session** *session)=0

  Execute any number of operations against the supplied CMS session.

6.547.1 Detailed Description

Callback for executing any number of operations on a provided CMS Session.

6.547.2 Constructor & Destructor Documentation

6.547.2.1 virtual activemq::cmsutil::SessionCallback::~SessionCallback () [virtual]

6.547.3 Member Function Documentation

6.547.3.1 virtual void activemq::cmsutil::SessionCallback::doInCms (cms::Session * *session*) [pure virtual]

Execute any number of operations against the supplied CMS session.

Parameters:

session the CMS `Session`

Exceptions:

CMSException if thrown by CMS API methods

Implemented in **activemq::cmsutil::CmsTemplate::ProducerExecutor** (p. 2450), and **activemq::cmsutil::CmsTemplate::ReceiveExecutor** (p. 2525).

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**SessionCallback.h**

6.548 activemq::commands::SessionId Class Reference

`#include <src/main/activemq/commands/SessionId.h>`Inheritance diagram for activemq::commands::SessionId:

Public Types

- typedef **decaf::lang::PointerComparator< SessionId > COMPARATOR**

Public Member Functions

- **SessionId** ()
- **SessionId** (const **SessionId** &other)
- **SessionId** (const **ConnectionId** *__connectionId__, long long sessionId)
- **SessionId** (const **ProducerId** *producerId)
- **SessionId** (const **ConsumerId** *consumerId)
- virtual ~**SessionId** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **SessionId** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *__value__) const
- const **Pointer< ConnectionId >** & **getParentId** () const
- virtual const std::string & **getConnectionId** () const
- virtual std::string & **getConnectionId** ()
- virtual void **setConnectionId** (const std::string &__connectionId__)
- virtual long long **getValue** () const
- virtual void **setValue** (long long **value**)
- virtual int **compareTo** (const **SessionId** &**value**) const
- virtual bool **equals** (const **SessionId** &**value**) const
- virtual bool **operator==** (const **SessionId** &**value**) const
- virtual bool **operator<** (const **SessionId** &**value**) const
- **SessionId** & **operator=** (const **SessionId** &other)
- int **getHashCode** () const

Static Public Attributes

- static const unsigned char **ID_SESSIONID** = 121

Protected Attributes

- std::string **connectionId**
- long long **value**

6.548.1 Member Typedef Documentation

6.548.1.1 typedef decaf::lang::PointerComparator<SessionId> activemq::commands::SessionId::COMPARATOR

6.548.2 Constructor & Destructor Documentation

6.548.2.1 activemq::commands::SessionId::SessionId ()

6.548.2.2 activemq::commands::SessionId::SessionId (const SessionId & *other*)

6.548.2.3 activemq::commands::SessionId::SessionId (const ConnectionId * *connectionId*, long long *sessionId*)

6.548.2.4 activemq::commands::SessionId::SessionId (const ProducerId * *producerId*)

6.548.2.5 activemq::commands::SessionId::SessionId (const ConsumerId * *consumerId*)

6.548.2.6 virtual activemq::commands::SessionId::~SessionId () [virtual]

6.548.3 Member Function Documentation

6.548.3.1 virtual SessionId* activemq::commands::SessionId::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.548.3.2 virtual int activemq::commands::SessionId::compareTo (const SessionId & *value*) const [virtual]

6.548.3.3 virtual void activemq::commands::SessionId::copyDataStructure (const DataStructure * *src*) [virtual]

6.548.3.4 virtual bool activemq::commands::SessionId::equals (const SessionId & *value*) const [virtual]

6.548.3.5 virtual bool activemq::commands::SessionId::equals (const DataStructure * *value*) const [virtual]

6.548.3.6 virtual std::string& activemq::commands::SessionId::getConnectionId () [virtual]

6.548.3.7 virtual const std::string& activemq::commands::SessionId::getConnectionId () const [virtual]

6.548.3.8 virtual unsigned char activemq::commands::SessionId::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.548.3.9 int activemq::commands::SessionId::getHashCode () const

6.548.3.10 const Pointer<ConnectionId>& activemq::commands::SessionId::getParentId () const

6.548.3.11 virtual long long activemq::commands::SessionId::getValue () const [virtual]

6.548.3.12 virtual bool activemq::commands::SessionId::operator< (const SessionId & *value*) const [virtual]

6.548.3.13 SessionId& activemq::commands::SessionId::operator= (const SessionId & *other*)

6.548.3.14 virtual bool activemq::commands::SessionId::operator== (const SessionId & *value*) const [virtual]

6.548.3.15 virtual void activemq::commands::SessionId::setConnectionId (const std::string & *connectionId*) [virtual]

6.548.3.16 virtual void activemq::commands::SessionId::setValue (long long *value*) [virtual]

6.548.3.17 virtual std::string activemq::commands::SessionId::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.548.4 Field Documentation

6.548.4.1 std::string activemq::commands::SessionId::connectionId [protected]

6.548.4.2 const unsigned char activemq::commands::SessionId::ID_SESSIONID = 121 [static]

6.548.4.3 long long activemq::commands::SessionId::value [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**SessionId.h**

6.549 activemq::wireformat::openwire::marshal::generated::SessionIdMa Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **SessionIdMarshaller** (p. 2684).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/SessionIdMarshaller.h>`Inheritan diagram for activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller:

Public Member Functions

- **SessionIdMarshaller** ()
- virtual ~**SessionIdMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.549.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **SessionIdMarshaller** (p. 2684). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.549.2 Constructor & Destructor Documentation

6.549.2.1 activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller::SessionIdMarsh () [inline]

6.549.2.2 virtual activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller::~SessionIdMars () [inline, virtual]

6.549.3 Member Function Documentation

6.549.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.549.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller::getDataStructure() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.549.3.3 virtual void activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.549.3.4 virtual void activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller::looseUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.549.3.5 virtual int activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.549.3.6 virtual void activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.549.3.7 virtual void activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller::tightUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**SessionIdMarshaller.h**

6.550 activemq::commands::SessionInfo Class Reference

`#include <src/main/activemq/commands/SessionInfo.h>`Inheritance diagram for activemq::commands::SessionInfo:

Public Member Functions

- **SessionInfo** ()
- virtual ~**SessionInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **SessionInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- unsigned int **getAckMode** () const
- void **setAckMode** (unsigned int mode)
- **Pointer**< **RemoveInfo** > **createRemoveCommand** () const
- virtual const **Pointer**< **SessionId** > & **getSessionId** () const
- virtual **Pointer**< **SessionId** > & **getSessionId** ()
- virtual void **setSessionId** (const **Pointer**< **SessionId** > &**sessionId**)
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_SESSIONINFO** = 4

Protected Attributes

- **Pointer**< **SessionId** > **sessionId**

6.550.1 Constructor & Destructor Documentation

6.550.1.1 activemq::commands::SessionInfo::SessionInfo ()

6.550.1.2 virtual activemq::commands::SessionInfo::~SessionInfo () [virtual]

6.550.2 Member Function Documentation

6.550.2.1 virtual SessionInfo* activemq::commands::SessionInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.550.2.2 virtual void activemq::commands::SessionInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.550.2.3 Pointer<RemoveInfo> activemq::commands::SessionInfo::createRemoveCommand () const

6.550.2.4 virtual bool activemq::commands::SessionInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.550.2.5 unsigned int activemq::commands::SessionInfo::getAckMode () const [inline]

6.550.2.6 virtual unsigned char activemq::commands::SessionInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.550.2.7 virtual Pointer<SessionId>& activemq::commands::SessionInfo::getSessionId () [virtual]

6.550.2.8 virtual const Pointer<SessionId>& activemq::commands::SessionInfo::getSessionId () const [virtual]

6.550.2.9 void activemq::commands::SessionInfo::setAckMode (unsigned int *mode*) [inline]

6.550.2.10 virtual void activemq::commands::SessionInfo::setSessionId (const Pointer< SessionId > & *sessionId*) [virtual]

6.550.2.11 virtual std::string activemq::commands::SessionInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.550.2.12 virtual Pointer<Command> activemq::commands::SessionInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.550.3 Field Documentation

6.550.3.1 const unsigned char activemq::commands::SessionInfo::ID_SESSIONINFO = 4 [static]

6.550.3.2 Pointer<SessionId> activemq::commands::SessionInfo::sessionId [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**SessionInfo.h**

6.551 activemq::wireformat::openwire::marshal::generated::SessionInfoM Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **SessionInfoMarshaller** (p. 2692).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/SessionInfoMarshaller.h>`Inherit diagram for activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller:

Public Member Functions

- **SessionInfoMarshaller** ()
- virtual ~**SessionInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.551.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **SessionInfoMarshaller** (p. 2692). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.551.2 Constructor & Destructor Documentation

6.551.2.1 activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller::SessionInfoMa () [inline]

6.551.2.2 virtual activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller::~SessionInfoM () [inline, virtual]

6.551.3 Member Function Documentation

6.551.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.551.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller::getDataStructu () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.551.3.3 virtual void activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.551.3.4 virtual void activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller::looseUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.551.3.5 virtual int activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller::tightMarshal1 (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.551.3.6 virtual void activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller::tightMarshal2 (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.551.3.7 virtual void activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller::tightUnmarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**SessionInfoMarshaller.h**

6.552 activemq::cmsutil::SessionPool Class Reference

A pool of CMS sessions from the same connection and with the same acknowledge mode.

`#include <src/main/activemq/cmsutil/SessionPool.h>`

Public Member Functions

- **SessionPool** (**cms::Connection** *connection, **cms::Session::AcknowledgeMode** ackMode, **ResourceLifecycleManager** *resourceLifecycleManager)

  Constructs a session pool.

- virtual ~**SessionPool** ()

  Destroys the pooled session objects, but not the underlying session resources.

- virtual **PooledSession** * **takeSession** ()

  Takes a session from the pool, creating one if necessary.

- virtual void **returnSession** (**PooledSession** *session)

  Returns a session to the pool.

- **ResourceLifecycleManager** * **getResourceLifecycleManager** ()

6.552.1 Detailed Description

A pool of CMS sessions from the same connection and with the same acknowledge mode. Internal session resources are managed through a provided `ResourceLifecycleManager (p. 2587)`, not by this pool. This class is thread-safe.

6.552.2 Constructor & Destructor Documentation

6.552.2.1 activemq::cmsutil::SessionPool::SessionPool (cms::Connection * *connection*, cms::Session::AcknowledgeMode *ackMode*, ResourceLifecycleManager * *resourceLifecycleManager*)

Constructs a session pool.

Parameters:

connection the connection to be used for creating all sessions.

ackMode the acknowledge mode to be used for all sessions

resourceLifecycleManager the object responsible for managing the lifecycle of any allocated **cms::Session** (p. 2665) resources.

6.552.2.2 virtual activemq::cmsutil::SessionPool::~SessionPool () `[virtual]`

Destroys the pooled session objects, but not the underlying session resources. That is the job of the **ResourceLifecycleManager** (p. 2587).

6.552.3 Member Function Documentation

6.552.3.1 ResourceLifecycleManager* activemq::cmsutil::SessionPool::getResourceLifecycleManager () [inline]

6.552.3.2 virtual void activemq::cmsutil::SessionPool::returnSession (PooledSession * *session*) [virtual]

Returns a session to the pool.

Parameters:

session the session to be returned.

6.552.3.3 virtual PooledSession* activemq::cmsutil::SessionPool::takeSession () [virtual]

Takes a session from the pool, creating one if necessary.

Returns:

the pooled session object

Exceptions:

CMSException if an error occurred

The documentation for this class was generated from the following file:

- src/main/activemq/cmsutil/**SessionPool.h**

6.553 activemq::state::SessionState Class Reference

`#include <src/main/activemq/state/SessionState.h>`

Public Member Functions

- **SessionState** (**Pointer**< **SessionInfo** > info)
- virtual ~**SessionState** ()
- std::string **toString** () const
- const **Pointer**< **SessionInfo** > **getInfo** () const
- void **addProducer** (**Pointer**< **ProducerInfo** > info)
- **Pointer**< **ProducerState** > **removeProducer** (**Pointer**< **ProducerId** > id)
- void **addConsumer** (**Pointer**< **ConsumerInfo** > info)
- **Pointer**< **ConsumerState** > **removeConsumer** (**Pointer**< **ConsumerId** > id)
- const **decaf::util::Collection**< **Pointer**< **ProducerState** > > & **getProducerStates** () const
- **Pointer**< **ProducerState** > **getProducerState** (**Pointer**< **ProducerId** > id)
- const **decaf::util::Collection**< **Pointer**< **ConsumerState** > > & **getConsumerStates** () const
- **Pointer**< **ConsumerState** > **getConsumerState** (**Pointer**< **ConsumerId** > id)
- void **checkShutdown** () const
- void **shutdown** ()

6.553.1 Constructor & Destructor Documentation

6.553.1.1 activemq::state::SessionState::SessionState (Pointer< SessionInfo > *info*)

6.553.1.2 virtual activemq::state::SessionState::~SessionState () [virtual]

6.553.2 Member Function Documentation

6.553.2.1 void activemq::state::SessionState::addConsumer (Pointer< ConsumerInfo > *info*)

6.553.2.2 void activemq::state::SessionState::addProducer (Pointer< ProducerInfo > *info*)

6.553.2.3 void activemq::state::SessionState::checkShutdown () const

6.553.2.4 Pointer<ConsumerState> activemq::state::SessionState::getConsumerState (Pointer< ConsumerId > *id*) [inline]

6.553.2.5 const decaf::util::Collection<Pointer<ConsumerState> >& activemq::state::SessionState::getConsumerStates () const [inline]

6.553.2.6 const Pointer<SessionInfo> activemq::state::SessionState::getInfo () const [inline]

6.553.2.7 Pointer<ProducerState> activemq::state::SessionState::getProducerState (Pointer< ProducerId > *id*) [inline]

6.553.2.8 const decaf::util::Collection<Pointer<ProducerState> >& activemq::state::SessionState::getProducerStates () const [inline]

6.553.2.9 Pointer<ConsumerState> activemq::state::SessionState::removeConsumer (Pointer< ConsumerId > *id*)

6.553.2.10 Pointer<ProducerState> activemq::state::SessionState::removeProducer (Pointer< ProducerId > *id*)

6.553.2.11 void activemq::state::SessionState::shutdown ()

6.553.2.12 std::string activemq::state::SessionState::toString () const

The documentation for this class was generated from the following file:

- src/main/activemq/state/**SessionState.h**

6.554 decaf::util::Set< E > Class Template Reference

A collection that contains no duplicate elements.

`#include <src/main/decaf/util/Set.h>`Inheritance diagram for decaf::util::Set< E >:

Public Member Functions

- virtual ~**Set** ()

6.554.1 Detailed Description

template<typename E> class decaf::util::Set< E >

A collection that contains no duplicate elements. More formally, sets contain no pair of elements e1 and e2 such that e1 == e2, and at most one null element. As implied by its name, this interface models the mathematical set abstraction.

The additional stipulation on constructors is, not surprisingly, that all constructors must create a set that contains no duplicate elements (as defined above).

Note: Great care must be exercised if mutable objects are used as set elements. The behavior of a set is not specified if the value of an object is changed in a manner that affects equals comparisons while the object is an element in the set.

Since:

1.0

6.554.2 Constructor & Destructor Documentation

6.554.2.1 template<typename E> virtual decaf::util::Set< E >::~Set () [inline, virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Set.h**

6.555 decaf::internal::security::provider::crypto::SHA1MessageDigestSpi Class Reference

SHA1 MessageDigestSpi.

`#include <src/main/decaf/internal/security/provider/crypto/SHA1MessageDigestSpi.h>`Inheritance diagram for decaf::internal::security::provider::crypto::SHA1MessageDigestSpi:

Public Member Functions

- **SHA1MessageDigestSpi** ()
- virtual ~**SHA1MessageDigestSpi** ()
- virtual bool **isCloneable** () const

  Queries the SPI implementation and returns true if the SPI can be cloned.

- virtual MessageDigestSpi * **clone** ()

  Returns a clone if the implementation supports being cloned.

- virtual int **engineGetDigestLength** ()

  Returns the digest length in bytes.

- virtual void **engineUpdate** (unsigned char input)

  Updates the digest using the specified byte.

- virtual void **engineUpdate** (const unsigned char *input, int size, int offset, int length)

  Updates the digest using the specified array of bytes, starting at the specified offset.

- virtual void **engineReset** ()

  Resets the digest for further use.

- virtual void **engineUpdate** (const std::vector< unsigned char > &input)

  Update the digest using the specified Vector of Bytes.

- virtual void **engineUpdate** (**decaf::nio::ByteBuffer** &input)

  Update the digest using the specified ByteBuffer.

- virtual std::vector< unsigned char > **engineDigest** ()

  Completes the hash computation by performing final operations such as padding.

- virtual int **engineDigest** (unsigned char *buffer, int size, int offset, int length)

  Completes the hash computation by performing final operations such as padding.

6.555.1 Detailed Description

SHA1 MessageDigestSpi.

Since:

1.0

6.555.2 Constructor & Destructor Documentation

6.555.2.1 decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::SHA1MessageDigestSp ()

6.555.2.2 virtual decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::~SHA1MessageDigestS () [virtual]

6.555.3 Member Function Documentation

6.555.3.1 virtual MessageDigestSpi* decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::clone () [virtual]

Returns a clone if the implementation supports being cloned.

Returns:

a new pointer that is a copy of this object.

Exceptions:

CloneNotSupportedException if this is called on an implementation that does not support cloning.

Reimplemented from **decaf::security::MessageDigestSpi** (p. 2128).

6.555.3.2 virtual int decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::engineDigest (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Completes the hash computation by performing final operations such as padding. Once engineDigest has been called, the engine should be reset (see engineReset). Resetting is the responsibility of the engine implementor.

Parameters:

buffer The output buffer in which to store the digest

size The size of the given input buffer

offset The offset to start from in the output buffer

length The number of bytes within buffer allotted for the digest. Both this default implementation and the SUN **provider** (p. 104) do not return partial digests. The presence of this parameter is solely for consistency in our API's. If the value of this parameter is less than the actual digest length, the method will throw a DigestException. This parameter is ignored if its value is greater than or equal to the actual digest length.

Returns:

the length of the digest stored in the output buffer.

Exceptions:

DigestException if an error occurs.

NullPointerException if the buffer pointer is NULL.

Implements **decaf::security::MessageDigestSpi** (p. 2128).

6.555.3.3 virtual std::vector<unsigned char> decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::engineDigest () [virtual]

Completes the hash computation by performing final operations such as padding. Once engineDigest has been called, the engine should be reset (see engineReset). Resetting is the responsibility of the engine implementor.

Returns:

an STL vector of bytes containing the resulting hash value.

Implements **decaf::security::MessageDigestSpi** (p. 2129).

6.555.3.4 virtual int decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::engineGetDigestLength () [virtual]

Returns the digest length in bytes.

Returns:

The digest length in bytes.

Implements **decaf::security::MessageDigestSpi** (p. 2129).

6.555.3.5 virtual void decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::engineReset () [virtual]

Resets the digest for further use.

Implements **decaf::security::MessageDigestSpi** (p. 2129).

6.555.3.6 virtual void decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::engineUpdate (decaf::nio::ByteBuffer & *input*) [virtual]

Update the digest using the specified ByteBuffer. The digest is updated using the input.remaining() bytes starting at input.position(). Upon return, the buffer's position will be equal to its limit; its limit will not have changed.

Parameters:

input The ByteBuffer instance that will be used to update the digest.

Implements **decaf::security::MessageDigestSpi** (p. 2130).

6.555.3.7 virtual void decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::engineUpdate (const std::vector< unsigned char > & *input*) [virtual]

Update the digest using the specified Vector of Bytes.

Parameters:

input The vector of bytes that will be used to update the digest.

Implements **decaf::security::MessageDigestSpi** (p. 2130).

6.555.3.8 virtual void decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::engineUpdate (const unsigned char * *input*, int *size*, int *offset*, int *length*) [virtual]

Updates the digest using the specified array of bytes, starting at the specified offset.

Parameters:

input The array of bytes to use for the update.

size The size of the given input buffer..

offset The offset to start from in the array of bytes.

length The number of bytes to use, starting at offset.

Exceptions:

NullPointerException if the input array pointer is NULL.

Implements **decaf::security::MessageDigestSpi** (p. 2130).

6.555.3.9 virtual void decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::engineUpdate (unsigned char *input*) [virtual]

Updates the digest using the specified byte.

Parameters:

input The byte to use for the update.

Implements **decaf::security::MessageDigestSpi** (p. 2131).

6.555.3.10 virtual bool decaf::internal::security::provider::crypto::SHA1MessageDigestSpi::isCloneable () const [inline, virtual]

Queries the SPI implementation and returns true if the SPI can be cloned.

Returns:

true if the SPI is clonable.

Reimplemented from **decaf::security::MessageDigestSpi** (p. 2131).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/security/provider/crypto/**SHA1MessageDigestSpi.h**

6.556 decaf::lang::Short Class Reference

`#include <src/main/decaf/lang/Short.h>`Inheritance diagram for decaf::lang::Short:

Public Member Functions

- **Short** (short value)
- **Short** (const std::string &value)
- virtual ~**Short** ()
- virtual int **compareTo** (const **Short** &s) const

  *Compares this **Short** (p. 2706) instance with another.*

- bool **equals** (const **Short** &s) const
- virtual bool **operator==** (const **Short** &s) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const **Short** &s) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- virtual int **compareTo** (const short &s) const

  *Compares this **Short** (p. 2706) instance with another.*

- bool **equals** (const short &s) const
- virtual bool **operator==** (const short &s) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const short &s) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- std::string **toString** () const
- virtual double **doubleValue** () const

  Answers the double value which the receiver represents.

- virtual float **floatValue** () const

  Answers the float value which the receiver represents.

- virtual unsigned char **byteValue** () const

  Answers the byte value which the receiver represents.

- virtual short **shortValue** () const

  Answers the short value which the receiver represents.

- virtual int **intValue** () const

  Answers the int value which the receiver represents.

- virtual long long **longValue** () const

  Answers the long value which the receiver represents.

Static Public Member Functions

- static std::string **toString** (short value)
- static **Short decode** (const std::string &value)

  *Decodes a **String** (p. 2919) into a **Short** (p. 2706).*

- static short **reverseBytes** (short value)

  Returns the value obtained by reversing the order of the bytes in the two's complement representation of the specified short value.

- static short **parseShort** (const std::string &s, int radix)

  Parses the string argument as a signed short in the radix specified by the second argument.

- static short **parseShort** (const std::string &s)

  Parses the string argument as a signed decimal short.

- static **Short valueOf** (short value)

  *Returns a **Short** (p. 2706) instance representing the specified short value.*

- static **Short valueOf** (const std::string &value)

  *Returns a **Short** (p. 2706) object holding the value given by the specified std::string.*

- static **Short valueOf** (const std::string &value, int radix)

  *Returns a **Short** (p. 2706) object holding the value extracted from the specified std::string when parsed with the radix given by the second argument.*

Static Public Attributes

- static const int **SIZE**

  Size of this objects primitive type in bits.

- static const short **MAX_VALUE**

  Max Value for this Object's primitive type.

- static const short **MIN_VALUE**

  Max Value for this Object's primitive type.

6.556.1 Constructor & Destructor Documentation

6.556.1.1 decaf::lang::Short::Short (short *value*)

Parameters:

value - short to wrap

6.556.1.2 decaf::lang::Short::Short (const std::string & *value*)

Parameters:

value The string value to convert to short and wrap.

Exceptions:

NumberFormatException if the string is not well formed number value.

6.556.1.3 virtual decaf::lang::Short::~Short () [inline, virtual]

6.556.2 Member Function Documentation

6.556.2.1 virtual unsigned char decaf::lang::Short::byteValue () const [inline, virtual]

Answers the byte value which the receiver represents.

Returns:

int the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2256).

6.556.2.2 virtual int decaf::lang::Short::compareTo (const short & *s*) const [virtual]

Compares this **Short** (p. 2706) instance with another.

Parameters:

s - the **Short** (p. 2706) instance to be compared

Returns:

zero if this object represents the same short value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object represents a value less than the passed in value.

Implements **decaf::lang::Comparable< short >** (p. 1031).

6.556.2.3 virtual int decaf::lang::Short::compareTo (const Short & *s*) const [virtual]

Compares this **Short** (p. 2706) instance with another.

Parameters:

s - the **Short** (p. 2706) instance to be compared

Returns:

zero if this object represents the same short value as the argument; a positive value if this object represents a value greater than the passed in value, and -1 if this object represents a value less than the passed in value.

6.556.2.4 static Short decaf::lang::Short::decode (const std::string & *value*) [static]

Decodes a **String** (p. 2919) into a **Short** (p. 2706). Accepts decimal, hexadecimal, and octal numbers given by the following grammar:

The sequence of characters following an (optional) negative sign and/or radix specifier ("0x", "0X", "#", or leading zero) is parsed as by the **Short.parseShort** (p. 2711) method with the indicated radix (10, 16, or 8). This sequence of characters must represent a positive value or a NumberFormatException will be thrown. The result is negated if first character of the specified **String** (p. 2919) is the minus sign. No whitespace characters are permitted in the string.

Parameters:

value - The string to decode

Returns:

a **Short** (p. 2706) object containing the decoded value

Exceptions:

NumberFomatException if the string is not formatted correctly.

6.556.2.5 virtual double decaf::lang::Short::doubleValue () const [inline, virtual]

Answers the double value which the receiver represents.

Returns:

double the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.556.2.6 bool decaf::lang::Short::equals (const short & *s*) const [inline, virtual]

Returns:

true if the two **Short** (p. 2706) Objects have the same value.

Implements **decaf::lang::Comparable< short >** (p. 1032).

6.556.2.7 bool decaf::lang::Short::equals (const Short & *s*) const [inline]

Returns:

true if the two **Short** (p. 2706) Objects have the same value.

6.556.2.8 virtual float decaf::lang::Short::floatValue () const [inline, virtual]

Answers the float value which the receiver represents.

Returns:

float the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.556.2.9 virtual int decaf::lang::Short::intValue () const [inline, virtual]

Answers the int value which the receiver represents.

Returns:

int the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.556.2.10 virtual long long decaf::lang::Short::longValue () const [inline, virtual]

Answers the long value which the receiver represents.

Returns:

long the value of the receiver.

Implements **decaf::lang::Number** (p. 2257).

6.556.2.11 virtual bool decaf::lang::Short::operator< (const short & *s*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

s - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< short >** (p. 1032).

6.556.2.12 virtual bool decaf::lang::Short::operator< (const Short & *s*) const [inline, virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

s - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.556.2.13 virtual bool decaf::lang::Short::operator== (const short & *s*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

s - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

Implements **decaf::lang::Comparable< short >** (p. 1032).

6.556.2.14 virtual bool decaf::lang::Short::operator== (const Short & *s*) const [inline, virtual]

Compares equality between this object and the one passed.

Parameters:

s - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.556.2.15 static short decaf::lang::Short::parseShort (const std::string & *s*) [static]

Parses the string argument as a signed decimal short. The characters in the string must all be decimal digits, except that the first character may be an ASCII minus sign '-' to indicate a negative value. The resulting short value is returned, exactly as if the argument and the radix 10 were given as arguments to the parseShort(const std::string, int) method.

Parameters:

s - **String** (p. 2919) to convert to a short

Returns:

the converted short value

Exceptions:

NumberFormatException if the string is not a short.

6.556.2.16 static short decaf::lang::Short::parseShort (const std::string & *s*, int *radix*) [static]

Parses the string argument as a signed short in the radix specified by the second argument. The characters in the string must all be digits, of the specified radix (as determined by whether

Character.digit(char, int) (p. 911) returns a nonnegative value) except that the first character may be an ASCII minus sign '-' to indicate a negative value. The resulting byte value is returned.

An exception of type NumberFormatException is thrown if any of the following situations occurs: * The first argument is null or is a string of length zero. * The radix is either smaller than **Character.MIN_RADIX** (p. 915) or larger than **Character.MAX_RADIX** (p. 915). * Any character of the string is not a digit of the specified radix, except that the first character may be a minus sign '-' provided that the string is longer than length 1. * The value represented by the string is not a value of type short.

Parameters:

s - the **String** (p. 2919) containing the short representation to be parsed

radix - the radix to be used while parsing s

Returns:

the short represented by the string argument in the specified radix.

Exceptions:

NumberFormatException - If **String** (p. 2919) does not contain a parsable short.

6.556.2.17 static short decaf::lang::Short::reverseBytes (short *value*) [static]

Returns the value obtained by reversing the order of the bytes in the two's complement representation of the specified short value.

Parameters:

value - the short whose bytes we are to reverse

Returns:

the reversed short.

6.556.2.18 virtual short decaf::lang::Short::shortValue () const [inline, virtual]

Answers the short value which the receiver represents.

Returns:

int the value of the receiver.

Reimplemented from **decaf::lang::Number** (p. 2258).

6.556.2.19 static std::string decaf::lang::Short::toString (short *value*) [static]

Returns:

a string representing the primitive value as Base 10

6.556.2.20 std::string decaf::lang::Short::toString () const

Returns:

this **Short** (p. 2706) Object as a **String** (p. 2919) Representation

6.556.2.21 static Short decaf::lang::Short::valueOf (const std::string & *value*, int *radix*) [static]

Returns a **Short** (p. 2706) object holding the value extracted from the specified std::string when parsed with the radix given by the second argument. The first argument is interpreted as representing a signed short in the radix specified by the second argument, exactly as if the argument were given to the parseShort(std::string, int) method. The result is a **Short** (p. 2706) object that represents the short value specified by the string.

Parameters:

value - std::string to parse as base (radix)

radix - base of the string to parse.

Returns:

new **Short** (p. 2706) Object wrapping the primitive

Exceptions:

NumberFormatException if the string is not a valid short.

6.556.2.22 static Short decaf::lang::Short::valueOf (const std::string & *value*) [static]

Returns a **Short** (p. 2706) object holding the value given by the specified std::string. The argument is interpreted as representing a signed decimal short, exactly as if the argument were given to the parseShort(std::string) method. The result is a **Short** (p. 2706) object that represents the short value specified by the string.

Parameters:

value - std::string to parse as base 10

Returns:

new **Short** (p. 2706) Object wrapping the primitive

Exceptions:

NumberFormatException if the string is not a decimal short.

6.556.2.23 static Short decaf::lang::Short::valueOf (short *value*) [static]

Returns a **Short** (p. 2706) instance representing the specified short value.

Parameters:

value - the short to wrap

Returns:

the new **Short** (p. 2706) object wrapping value.

6.556.3 Field Documentation

6.556.3.1 const short decaf::lang::Short::MAX_VALUE [static]

Max Value for this Object's primitive type.

6.556.3.2 const short decaf::lang::Short::MIN_VALUE [static]

Max Value for this Object's primitive type.

6.556.3.3 const int decaf::lang::Short::SIZE [static]

Size of this objects primitive type in bits.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Short.h**

6.557 decaf::internal::nio::ShortArrayBuffer Class Reference

`#include <src/main/decaf/internal/nio/ShortArrayBuffer.h>`Inheritance diagram for decaf::internal::nio::ShortArrayBuffer:

Public Member Functions

- **ShortArrayBuffer** (int size, bool readOnly=false)

  *Creates a **ShortArrayBuffer** (p. 2715) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

- **ShortArrayBuffer** (short *array, int size, int offset, int length, bool readOnly=false)

  *Creates a **ShortArrayBuffer** (p. 2715) object that wraps the given array.*

- **ShortArrayBuffer** (const **decaf::lang::Pointer**< **ByteArrayAdapter** > &array, int offset, int length, bool readOnly=false)

  Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset.

- **ShortArrayBuffer** (const **ShortArrayBuffer** &other)

  *Create a **ShortArrayBuffer** (p. 2715) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.*

- virtual ~**ShortArrayBuffer** ()
- virtual short * **array** ()

  Returns the short array that backs this buffer (optional operation).
  Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  *the array that backs this **Buffer** (p. 729)*

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual int **arrayOffset** ()

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).
  Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

  Returns:

  The offset into the backing array where index zero starts.

  Exceptions:

  ***ReadOnlyBufferException** (p. 2520) if this **Buffer** (p. 729) is read only.*
  ***UnsupportedOperationException** if the underlying store has no array.*

- virtual ShortBuffer * **asReadOnlyBuffer** () const

Creates a new, read-only short buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.
If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only short buffer which the caller then owns.

- virtual ShortBuffer & **compact** ()

Compacts this buffer.
*The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.*
The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

*a reference to this **ShortBuffer** (p. 2724).*

Exceptions:

***ReadOnlyBufferException** (p. 2520) if this buffer is read-only.*

- virtual ShortBuffer * **duplicate** ()

Creates a new short buffer that shares this buffer's content.
The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.
The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

*a new short **Buffer** (p. 729) which the caller owns.*

- virtual short **get** ()

Relative get method.
Reads the value at this buffer's current position, and then increments the position.

Returns:

the short at the current position.

Exceptions:

***BufferUnderflowException** (p. 757) if there no more data to return.*

- virtual short **get** (int index) const

Absolute get method.
Reads the value at the given index.

Parameters:

***index** The index in the **Buffer** (p. 729) where the short is to be read.*

Returns:

the short that is located at the given index.

Exceptions:

IndexOutOfBoundsException *if index is not smaller than the buffer's limit, or the index is negative.*

- virtual bool **hasArray** () const

  Tells whether or not this buffer is backed by an accessible short array.
  If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.
  Returns:

  true if, and only if, this buffer is backed by an array and is not read-only.

- virtual bool **isReadOnly** () const

  Tells whether or not this buffer is read-only.
  Returns:

  true if, and only if, this buffer is read-only.

- virtual ShortBuffer & **put** (short value)

  Writes the given shorts into this buffer at the current position, and then increments the position.
  Parameters:

  value *The shorts value to be written.*
  Returns:

  a reference to this buffer.
  Exceptions:

  BufferOverflowException *(p. 754) if this buffer's current position is not smaller than its limit.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual ShortBuffer & **put** (int index, short value)

  Writes the given shorts into this buffer at the given index.
  Parameters:

  index *The position in the* ***Buffer*** *(p. 729) to write the data.*
  value *The shorts to write.*
  Returns:

  a reference to this buffer.
  Exceptions:

  IndexOutOfBoundsException *if index greater than the buffer's limit minus the size of the type being written.*
  ReadOnlyBufferException *(p. 2520) if this buffer is read-only.*

- virtual ShortBuffer * **slice** () const

  Creates a new ***ShortBuffer*** *(p. 2724) whose content is a shared subsequence of this buffer's content.*
  The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.
  The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.
  Returns:

  the newly create ***ShortBuffer*** *(p. 2724) which the caller owns.*

Protected Member Functions

- virtual void **setReadOnly** (bool value)

  *Sets this **ShortArrayBuffer** (p. 2715) as Read-Only.*

6.557.1 Constructor & Destructor Documentation

6.557.1.1 decaf::internal::nio::ShortArrayBuffer::ShortArrayBuffer (int *size*, bool *readOnly* = `false`)

Creates a **ShortArrayBuffer** (p. 2715) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

size The size of the array, this is the limit we read and write to.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

IllegalArguementException if the capacity value is negative.

6.557.1.2 decaf::internal::nio::ShortArrayBuffer::ShortArrayBuffer (short * *array*, int *size*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a **ShortArrayBuffer** (p. 2715) object that wraps the given array. If the own flag is set then it will delete this array when this object is deleted.

Parameters:

array The actual array to wrap.

size The size of the given array.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if buffer is NULL

IndexOutOfBoundsException if offset is greater than array capacity.

6.557.1.3 decaf::internal::nio::ShortArrayBuffer::ShortArrayBuffer (const decaf::lang::Pointer< ByteArrayAdapter > & *array*, int *offset*, int *length*, bool *readOnly* = `false`)

Creates a byte buffer that wraps the passed ByteArrayAdapter and start at the given offset. The capacity and limit of the new **ShortArrayBuffer** (p. 2715) will be that of the remaining capacity of the passed buffer.

Parameters:

array The ByteArrayAdapter to wrap.

offset The position that is this buffers start position.

length The limit of how many bytes into the array this Buffer can write.

readOnly Boolean indicating if this buffer should be read-only, default as false.

Exceptions:

NullPointerException if array is NULL

IndexOutOfBoundsException if offset + length is greater than array size.

6.557.1.4 decaf::internal::nio::ShortArrayBuffer::ShortArrayBuffer (const ShortArrayBuffer & *other*)

Create a **ShortArrayBuffer** (p. 2715) that mirrors this one, meaning it shares a reference to this buffers ByteArrayAdapter and when changes are made to that data it is reflected in both.

Parameters:

other The **ShortArrayBuffer** (p. 2715) this one is to mirror.

6.557.1.5 virtual decaf::internal::nio::ShortArrayBuffer::~ShortArrayBuffer () [virtual]

6.557.2 Member Function Documentation

6.557.2.1 virtual short* decaf::internal::nio::ShortArrayBuffer::array () [virtual]

Returns the short array that backs this buffer (optional operation).

Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729)

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::ShortBuffer** (p. 2726).

6.557.2.2 virtual int decaf::internal::nio::ShortArrayBuffer::arrayOffset () [virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.
UnsupportedOperationException if the underlying store has no array.

Implements **decaf::nio::ShortBuffer** (p. 2727).

6.557.2.3 virtual ShortBuffer* decaf::internal::nio::ShortArrayBuffer::asReadOnlyBuffer () const [virtual]

Creates a new, read-only short buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only short buffer which the caller then owns.

Implements **decaf::nio::ShortBuffer** (p. 2727).

6.557.2.4 virtual ShortBuffer& decaf::internal::nio::ShortArrayBuffer::compact () [virtual]

Compacts this buffer.

The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **ShortBuffer** (p. 2724).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ShortBuffer** (p. 2727).

6.557.2.5 virtual ShortBuffer* decaf::internal::nio::ShortArrayBuffer::duplicate () [virtual]

Creates a new short buffer that shares this buffer's content.

The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new short **Buffer** (p. 729) which the caller owns.

Implements **decaf::nio::ShortBuffer** (p. 2728).

6.557.2.6 virtual short decaf::internal::nio::ShortArrayBuffer::get (int *index*) const [virtual]

Absolute get method.

Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the short is to be read.

Returns:

the short that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or the index is negative.

Implements **decaf::nio::ShortBuffer** (p. 2729).

6.557.2.7 virtual short decaf::internal::nio::ShortArrayBuffer::get () [virtual]

Relative get method.

Reads the value at this buffer's current position, and then increments the position.

Returns:

the short at the current position.

Exceptions:

BufferUnderflowException *(p. 757)* if there no more data to return.

Implements **decaf::nio::ShortBuffer** (p. 2729).

6.557.2.8 virtual bool decaf::internal::nio::ShortArrayBuffer::hasArray () const [inline, virtual]

Tells whether or not this buffer is backed by an accessible short array.

If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only.

Implements **decaf::nio::ShortBuffer** (p. 2730).

6.557.2.9 virtual bool decaf::internal::nio::ShortArrayBuffer::isReadOnly () const [inline, virtual]

Tells whether or not this buffer is read-only.

Returns:

true if, and only if, this buffer is read-only.

Implements **decaf::nio::Buffer** (p. 732).

6.557.2.10 virtual ShortBuffer& decaf::internal::nio::ShortArrayBuffer::put (int *index*, short *value*) [virtual]

Writes the given shorts into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The shorts to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implements **decaf::nio::ShortBuffer** (p. 2730).

6.557.2.11 virtual ShortBuffer& decaf::internal::nio::ShortArrayBuffer::put (short *value*) [virtual]

Writes the given shorts into this buffer at the current position, and then increments the position.

Parameters:

value The shorts value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(*p. ***754****)* if this buffer's current position is not smaller than its limit.

ReadOnlyBufferException *(*p. ***2520****)* if this buffer is read-only.

Implements **decaf::nio::ShortBuffer** (p. 2730).

6.557.2.12 virtual void decaf::internal::nio::ShortArrayBuffer::setReadOnly (bool *value*) [inline, protected, virtual]

Sets this **ShortArrayBuffer** (p. 2715) as Read-Only.

Parameters:

value Boolean value, true if this buffer is to be read-only, false otherwise.

6.557.2.13 virtual ShortBuffer* decaf::internal::nio::ShortArrayBuffer::slice () const [virtual]

Creates a new **ShortBuffer** (p. 2724) whose content is a shared subsequence of this buffer's content.

The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **ShortBuffer** (p. 2724) which the caller owns.

Implements **decaf::nio::ShortBuffer** (p. 2732).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/nio/**ShortArrayBuffer.h**

6.558 decaf::nio::ShortBuffer Class Reference

This class defines four categories of operations upon short buffers:.

`#include <src/main/decaf/nio/ShortBuffer.h>`Inheritance diagram for decaf::nio::ShortBuffer:

Public Member Functions

- virtual ~**ShortBuffer** ()
- virtual std::string **toString** () const
- virtual short * **array** ()=0

  Returns the short array that backs this buffer (optional operation).

- virtual int **arrayOffset** ()=0

  Returns the offset within this buffer's backing array of the first element of the buffer (optional operation).

- virtual **ShortBuffer** * **asReadOnlyBuffer** () const =0

  Creates a new, read-only short buffer that shares this buffer's content.

- virtual **ShortBuffer** & **compact** ()=0

  Compacts this buffer.

- virtual **ShortBuffer** * **duplicate** ()=0

  Creates a new short buffer that shares this buffer's content.

- virtual short **get** ()=0

  Relative get method.

- virtual short **get** (int index) const =0

  Absolute get method.

- **ShortBuffer** & **get** (std::vector< short > buffer)

  Relative bulk get method.

- **ShortBuffer** & **get** (short *buffer, int size, int offset, int length)

  Relative bulk get method.

- virtual bool **hasArray** () const =0

  Tells whether or not this buffer is backed by an accessible short array.

- **ShortBuffer** & **put** (**ShortBuffer** &src)

  This method transfers the shorts remaining in the given source buffer into this buffer.

- **ShortBuffer** & **put** (const short *buffer, int size, int offset, int length)

  This method transfers shorts into this buffer from the given source array.

- **ShortBuffer** & **put** (std::vector< short > &buffer)

  This method transfers the entire content of the given source shorts array into this buffer.

- virtual **ShortBuffer** & **put** (short value)=0

  Writes the given shorts into this buffer at the current position, and then increments the position.

- virtual **ShortBuffer** & **put** (int index, short value)=0

  Writes the given shorts into this buffer at the given index.

- virtual **ShortBuffer** * **slice** () const =0

  *Creates a new **ShortBuffer** (p. 2724) whose content is a shared subsequence of this buffer's content.*

- virtual int **compareTo** (const **ShortBuffer** &value) const

- virtual bool **equals** (const **ShortBuffer** &value) const

- virtual bool **operator==** (const **ShortBuffer** &value) const

- virtual bool **operator<** (const **ShortBuffer** &value) const

Static Public Member Functions

- static **ShortBuffer** * **allocate** (int capacity)

  Allocates a new Double buffer.

- static **ShortBuffer** * **wrap** (short *array, int size, int offset, int length)

  *Wraps the passed buffer with a new **ShortBuffer** (p. 2724).*

- static **ShortBuffer** * **wrap** (std::vector< short > &buffer)

  *Wraps the passed STL short Vector in a **ShortBuffer** (p. 2724).*

Protected Member Functions

- **ShortBuffer** (int capacity)

  *Creates a **ShortBuffer** (p. 2724) object that has its backing array allocated internally and is then owned and deleted when this object is deleted.*

6.558.1 Detailed Description

This class defines four categories of operations upon short buffers:. o Absolute and relative get and put methods that read and write single shorts; o Relative bulk get methods that transfer contiguous sequences of shorts from this buffer into an array; and o Relative bulk put methods that transfer contiguous sequences of shorts from a short array or some other short buffer into this buffer o Methods for compacting, duplicating, and slicing a short buffer.

Double buffers can be created either by allocation, which allocates space for the buffer's content, by wrapping an existing short array into a buffer, or by creating a view of an existing byte buffer

Methods in this class that do not otherwise have a value to return are specified to return the buffer upon which they are invoked. This allows method invocations to be chained.

6.558.2 Constructor & Destructor Documentation

6.558.2.1 decaf::nio::ShortBuffer::ShortBuffer (int *capacity*) [protected]

Creates a **ShortBuffer** (p. 2724) object that has its backing array allocated internally and is then owned and deleted when this object is deleted. The array is initially created with all elements initialized to zero.

Parameters:

capacity The size and limit of the **Buffer** (p. 729) in doubles

Exceptions:

IllegalArguementException if capacity is negative.

6.558.2.2 virtual decaf::nio::ShortBuffer::~ShortBuffer () [inline, virtual]

6.558.3 Member Function Documentation

6.558.3.1 static ShortBuffer* decaf::nio::ShortBuffer::allocate (int *capacity*) [static]

Allocates a new Double buffer. The new buffer's position will be zero, its limit will be its capacity, and its mark will be undefined. It will have a backing array, and its array offset will be zero.

Parameters:

capacity The size of the Double buffer in shorts.

Returns:

the **ShortBuffer** (p. 2724) that was allocated, caller owns.

6.558.3.2 virtual short* decaf::nio::ShortBuffer::array () [pure virtual]

Returns the short array that backs this buffer (optional operation). Modifications to this buffer's content will cause the returned array's content to be modified, and vice versa.

Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

the array that backs this **Buffer** (p. 729)

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2719).

6.558.3.3 virtual int decaf::nio::ShortBuffer::arrayOffset () [pure virtual]

Returns the offset within this buffer's backing array of the first element of the buffer (optional operation). Invoke the hasArray method before invoking this method in order to ensure that this buffer has an accessible backing array.

Returns:

The offset into the backing array where index zero starts.

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this **Buffer** (p. 729) is read only.

UnsupportedOperationException if the underlying store has no array.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2719).

6.558.3.4 virtual ShortBuffer* decaf::nio::ShortBuffer::asReadOnlyBuffer () const [pure virtual]

Creates a new, read-only short buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer; the new buffer itself, however, will be read-only and will not allow the shared content to be modified. The two buffers' position, limit, and mark values will be independent.

If this buffer is itself read-only then this method behaves in exactly the same way as the duplicate method.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer.

Returns:

The new, read-only short buffer which the caller then owns.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2720).

6.558.3.5 virtual ShortBuffer& decaf::nio::ShortBuffer::compact () [pure virtual]

Compacts this buffer. The bytes between the buffer's current position and its limit, if any, are copied to the beginning of the buffer. That is, the byte at index p = **position()** (p. 733) is copied to index zero, the byte at index p + 1 is copied to index one, and so forth until the byte at index **limit()** (p. 733) - 1 is copied to index n = **limit()** (p. 733) - 1 - p. The buffer's position is then set to n+1 and its limit is set to its capacity. The mark, if defined, is discarded.

The buffer's position is set to the number of bytes copied, rather than to zero, so that an invocation of this method can be followed immediately by an invocation of another relative put method.

Returns:

a reference to this **ShortBuffer** (p. 2724).

Exceptions:

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2720).

6.558.3.6 virtual int decaf::nio::ShortBuffer::compareTo (const ShortBuffer & *value*) const [virtual]

6.558.3.7 virtual ShortBuffer* decaf::nio::ShortBuffer::duplicate () [pure virtual]

Creates a new short buffer that shares this buffer's content. The content of the new buffer will be that of this buffer. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's capacity, limit, position, and mark values will be identical to those of this buffer. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

a new short **Buffer** (p. 729) which the caller owns.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2721).

6.558.3.8 virtual bool decaf::nio::ShortBuffer::equals (const ShortBuffer & *value*) const [virtual]

6.558.3.9 ShortBuffer& decaf::nio::ShortBuffer::get (short * *buffer*, int *size*, int *offset*, int *length*)

Relative bulk get method. This method transfers shorts from this buffer into the given destination array. If there are fewer shorts remaining in the buffer than are required to satisfy the request, that is, if length > **remaining()** (p. 734), then no bytes are transferred and a **BufferUnderflowException** (p. 757) is thrown.

Otherwise, this method copies length shorts from this buffer into the given array, starting at the current position of this buffer and at the given offset in the array. The position of this buffer is then incremented by length.

Parameters:

buffer The pointer to an allocated buffer to fill.

size The size of the buffer provided.

offset The position in the buffer to start filling.

length The amount of data to put in the passed buffer.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(p. 757)* if there are fewer than length shorts remaining in this buffer

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.558.3.10 ShortBuffer& decaf::nio::ShortBuffer::get (std::vector< short > *buffer*)

Relative bulk get method. This method transfers values from this buffer into the given destination vector. An invocation of this method of the form src.get(a) behaves in exactly the same way as the invocation. The vector must be sized to the amount of data that is to be read, that is to say, the caller should call buffer.resize(N) before calling this get method.

Returns:

a reference to this **Buffer** (p. 729).

Exceptions:

BufferUnderflowException *(p. 757)* if there are fewer than length shorts remaining in this buffer.

6.558.3.11 virtual short decaf::nio::ShortBuffer::get (int *index*) const [pure virtual]

Absolute get method. Reads the value at the given index.

Parameters:

index The index in the **Buffer** (p. 729) where the short is to be read.

Returns:

the short that is located at the given index.

Exceptions:

IndexOutOfBoundsException if index is not smaller than the buffer's limit, or the index is negative.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2721).

6.558.3.12 virtual short decaf::nio::ShortBuffer::get () [pure virtual]

Relative get method. Reads the value at this buffer's current position, and then increments the position.

Returns:

the short at the current position.

Exceptions:

BufferUnderflowException *(*p. ***757)*** if there no more data to return.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2721).

6.558.3.13 virtual bool decaf::nio::ShortBuffer::hasArray () const [pure virtual]

Tells whether or not this buffer is backed by an accessible short array. If this method returns true then the array and arrayOffset methods may safely be invoked. Subclasses should override this method if they do not have a backing array as this class always returns true.

Returns:

true if, and only if, this buffer is backed by an array and is not read-only.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2722).

6.558.3.14 virtual bool decaf::nio::ShortBuffer::operator< (const ShortBuffer & *value*) const [virtual]

6.558.3.15 virtual bool decaf::nio::ShortBuffer::operator== (const ShortBuffer & *value*) const [virtual]

6.558.3.16 virtual ShortBuffer& decaf::nio::ShortBuffer::put (int *index*, short *value*) [pure virtual]

Writes the given shorts into this buffer at the given index.

Parameters:

index The position in the **Buffer** (p. 729) to write the data.

value The shorts to write.

Returns:

a reference to this buffer.

Exceptions:

IndexOutOfBoundsException if index greater than the buffer's limit minus the size of the type being written.

ReadOnlyBufferException *(*p. ***2520)*** if this buffer is read-only.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2722).

6.558.3.17 virtual ShortBuffer& decaf::nio::ShortBuffer::put (short *value*) [pure virtual]

Writes the given shorts into this buffer at the current position, and then increments the position.

Parameters:

value The shorts value to be written.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if this buffer's current position is not smaller than its limit.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2722).

6.558.3.18 ShortBuffer& decaf::nio::ShortBuffer::put (std::vector< short > & *buffer*)

This method transfers the entire content of the given source shorts array into this buffer. This is the same as calling put(&buffer[0], 0, buffer.size().

Parameters:

buffer The buffer whose contents are copied to this **ShortBuffer** (p. 2724).

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

6.558.3.19 ShortBuffer& decaf::nio::ShortBuffer::put (const short * *buffer*, int *size*, int *offset*, int *length*)

This method transfers shorts into this buffer from the given source array. If there are more shorts to be copied from the array than remain in this buffer, that is, if length > **remaining()** (p. 734), then no shorts are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies length bytes from the given array into this buffer, starting at the given offset in the array and at the current position of this buffer. The position of this buffer is then incremented by length.

Parameters:

buffer The array from which shorts are to be read.

size The size of the buffer passed.

offset The offset within the array of the first char to be read.

length The number of shorts to be read from the given array.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only

NullPointerException if the passed buffer is null.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

6.558.3.20 ShortBuffer& decaf::nio::ShortBuffer::put (ShortBuffer & *src*)

This method transfers the shorts remaining in the given source buffer into this buffer. If there are more shorts remaining in the source buffer than in this buffer, that is, if src.remaining() > **remaining()** (p. 734), then no shorts are transferred and a **BufferOverflowException** (p. 754) is thrown.

Otherwise, this method copies n = src.remaining() shorts from the given buffer into this buffer, starting at each buffer's current position. The positions of both buffers are then incremented by n.

Parameters:

src The buffer to take shorts from an place in this one.

Returns:

a reference to this buffer.

Exceptions:

BufferOverflowException *(p. 754)* if there is insufficient space in this buffer for the remaining shorts in the source buffer.

IllegalArgumentException if the source buffer is this buffer.

ReadOnlyBufferException *(p. 2520)* if this buffer is read-only.

6.558.3.21 virtual ShortBuffer* decaf::nio::ShortBuffer::slice () const [pure virtual]

Creates a new **ShortBuffer** (p. 2724) whose content is a shared subsequence of this buffer's content. The content of the new buffer will start at this buffer's current position. Changes to this buffer's content will be visible in the new buffer, and vice versa; the two buffers' position, limit, and mark values will be independent.

The new buffer's position will be zero, its capacity and its limit will be the number of bytes remaining in this buffer, and its mark will be undefined. The new buffer will be read-only if, and only if, this buffer is read-only.

Returns:

the newly create **ShortBuffer** (p. 2724) which the caller owns.

Implemented in **decaf::internal::nio::ShortArrayBuffer** (p. 2723).

6.558.3.22 virtual std::string decaf::nio::ShortBuffer::toString () const [virtual]

Returns:

a std::string describing this object

6.558.3.23 static ShortBuffer* decaf::nio::ShortBuffer::wrap (std::vector< short > & *buffer*) [static]

Wraps the passed STL short Vector in a **ShortBuffer** (p. 2724). The new buffer will be backed by the given short array; modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity and limit will be buffer.size(), its position will be zero, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

buffer The vector that will back the new buffer, the vector must have been sized to the desired size already by calling vector.resize(N).

Returns:

a new **ShortBuffer** (p. 2724) that is backed by buffer, caller owns.

6.558.3.24 static ShortBuffer* decaf::nio::ShortBuffer::wrap (short * *array*, int *size*, int *offset*, int *length*) [static]

Wraps the passed buffer with a new **ShortBuffer** (p. 2724). The new buffer will be backed by the given short array; that is, modifications to the buffer will cause the array to be modified and vice versa. The new buffer's capacity will be array.length, its position will be offset, its limit will be offset + length, and its mark will be undefined. Its backing array will be the given array, and its array offset will be zero.

Parameters:

array The array that will back the new buffer.

size The size of the passed in array.

offset The offset of the subarray to be used.

length The length of the subarray to be used.

Returns:

a new **ShortBuffer** (p. 2724) that is backed by buffer, caller owns.

Exceptions:

NullPointerException if the array pointer is NULL.

IndexOutOfBoundsException if the preconditions of size, offset, or length are not met.

The documentation for this class was generated from the following file:

- src/main/decaf/nio/**ShortBuffer.h**

6.559 activemq::commands::ShutdownInfo Class Reference

`#include <src/main/activemq/commands/ShutdownInfo.h>`Inheritance diagram for activemq::commands::ShutdownInfo:

Public Member Functions

- **ShutdownInfo** ()
- virtual ~**ShutdownInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **ShutdownInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual bool **isShutdownInfo** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_SHUTDOWNINFO** = 11

6.559.1 Constructor & Destructor Documentation

6.559.1.1 activemq::commands::ShutdownInfo::ShutdownInfo ()

6.559.1.2 virtual activemq::commands::ShutdownInfo::~ShutdownInfo () [virtual]

6.559.2 Member Function Documentation

6.559.2.1 virtual ShutdownInfo* activemq::commands::ShutdownInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.559.2.2 virtual void activemq::commands::ShutdownInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.559.2.3 virtual bool activemq::commands::ShutdownInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.559.2.4 virtual unsigned char activemq::commands::ShutdownInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.559.2.5 virtual bool activemq::commands::ShutdownInfo::isShutdownInfo () const [inline, virtual]

Returns:

an answer of true to the **isShutdownInfo()** (p. 2735) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 634).

6.559.2.6 virtual std::string activemq::commands::ShutdownInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.559.2.7 virtual Pointer<Command> activemq::commands::ShutdownInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.559.3 Field Documentation

6.559.3.1 const unsigned char activemq::commands::ShutdownInfo::ID_SHUTDOWNINFO = 11 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**ShutdownInfo.h**

6.560 activemq::wireformat::openwire::marshal::generated::ShutdownInf Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **ShutdownInfoMarshaller** (p. 2737).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/ShutdownInfoMarshaller.h>`Inheri
diagram for activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller:

Public Member Functions

- **ShutdownInfoMarshaller** ()
- virtual ~**ShutdownInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.560.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **ShutdownInfoMarshaller** (p. 2737). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.560.2 Constructor & Destructor Documentation

6.560.2.1 activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller::ShutdownI () [inline]

6.560.2.2 virtual activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller::~Shutdown () [inline, virtual]

6.560.3 Member Function Documentation

6.560.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller::createObject () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.560.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller::getDataStruc () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.560.3.3 virtual void activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.560.3.4 virtual void activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller::looseUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.560.3.5 virtual int activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.560.3.6 virtual void activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.560.3.7 virtual void activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller::tightUnmarsl (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**ShutdownInfoMarshaller.h**

6.561 decaf::security::SignatureException Class Reference

`#include <src/main/decaf/security/SignatureException.h>`Inheritance diagram for decaf::security::SignatureException:

Public Member Functions

- **SignatureException** ()

  Default Constructor.

- **SignatureException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **SignatureException** (const **SignatureException** &ex)

  Copy Constructor.

- **SignatureException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **SignatureException** (const std::exception *cause)

  Convenience Constructor.

- **SignatureException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **SignatureException** * **clone** () const

  Clones this exception.

- virtual ~**SignatureException** () throw ()

6.561.1 Constructor & Destructor Documentation

6.561.1.1 decaf::security::SignatureException::SignatureException ()

Default Constructor.

6.561.1.2 decaf::security::SignatureException::SignatureException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.561.1.3 decaf::security::SignatureException::SignatureException (const SignatureException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.561.1.4 decaf::security::SignatureException::SignatureException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.561.1.5 decaf::security::SignatureException::SignatureException (const std::exception * *cause*)

Convenience Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.561.1.6 decaf::security::SignatureException::SignatureException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file name where exception occurs

lineNumber line number where the exception occurred.

msg message to report

... list of primitives that are formatted into the message

6.561.1.7 virtual decaf::security::SignatureException::~SignatureException () throw () [virtual]

6.561.2 Member Function Documentation

6.561.2.1 virtual SignatureException* decaf::security::SignatureException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A deep copy of this exception.

Reimplemented from **decaf::security::GeneralSecurityException** (p. 1572).

The documentation for this class was generated from the following file:

- src/main/decaf/security/**SignatureException.h**

6.562 decaf::util::logging::SimpleFormatter Class Reference

Print a brief summary of the **LogRecord** (p. 1947) in a human readable format.

`#include <src/main/decaf/util/logging/SimpleFormatter.h>`Inheritance diagram for decaf::util::logging::SimpleFormatter:

Public Member Functions

- **SimpleFormatter** ()
- virtual ~**SimpleFormatter** ()
- virtual std::string **format** (const **LogRecord** &record) const

  Format the given log record and return the formatted string.

6.562.1 Detailed Description

Print a brief summary of the **LogRecord** (p. 1947) in a human readable format. The summary will typically be 1 or 2 lines.

Since:

1.0

6.562.2 Constructor & Destructor Documentation

6.562.2.1 decaf::util::logging::SimpleFormatter::SimpleFormatter ()

6.562.2.2 virtual decaf::util::logging::SimpleFormatter::~SimpleFormatter () [virtual]

6.562.3 Member Function Documentation

6.562.3.1 virtual std::string decaf::util::logging::SimpleFormatter::format (const LogRecord & *record*) const [virtual]

Format the given log record and return the formatted string.

Parameters:

record The Log Record to Format.

Implements **decaf::util::logging::Formatter** (p. 1556).

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**SimpleFormatter.h**

6.563 decaf::util::logging::SimpleLogger Class Reference

`#include <src/main/decaf/util/logging/SimpleLogger.h>`

Public Member Functions

- **SimpleLogger** (const std::string &name)

  Constructor.

- virtual ~**SimpleLogger** ()

  Destructor.

- virtual void **mark** (const std::string &message)

  Log a Mark Block ***Level*** *(*p. *1846) Log.*

- virtual void **debug** (const std::string &file, const int line, const std::string &message)

  Log a Debug ***Level*** *(*p. *1846) Log.*

- virtual void **info** (const std::string &file, const int line, const std::string &message)

  Log a Informational ***Level*** *(*p. *1846) Log.*

- virtual void **warn** (const std::string &file, const int line, const std::string &message)

  Log a Warning ***Level*** *(*p. *1846) Log.*

- virtual void **error** (const std::string &file, const int line, const std::string &message)

  Log a Error ***Level*** *(*p. *1846) Log.*

- virtual void **fatal** (const std::string &file, const int line, const std::string &message)

  Log a Fatal ***Level*** *(*p. *1846) Log.*

- virtual void **log** (const std::string &message)

  No-frills log.

6.563.1 Constructor & Destructor Documentation

6.563.1.1 decaf::util::logging::SimpleLogger::SimpleLogger (const std::string & *name*)

Constructor.

6.563.1.2 virtual decaf::util::logging::SimpleLogger::~SimpleLogger () [virtual]

Destructor.

6.563.2 Member Function Documentation

6.563.2.1 virtual void decaf::util::logging::SimpleLogger::debug (const std::string & *file*, const int *line*, const std::string & *message*) [virtual]

Log a Debug **Level** (p. 1846) Log.

6.563.2.2 virtual void decaf::util::logging::SimpleLogger::error (const std::string & *file*, const int *line*, const std::string & *message*) [virtual]

Log a Error **Level** (p. 1846) Log.

6.563.2.3 virtual void decaf::util::logging::SimpleLogger::fatal (const std::string & *file*, const int *line*, const std::string & *message*) [virtual]

Log a Fatal **Level** (p. 1846) Log.

6.563.2.4 virtual void decaf::util::logging::SimpleLogger::info (const std::string & *file*, const int *line*, const std::string & *message*) [virtual]

Log a Informational **Level** (p. 1846) Log.

6.563.2.5 virtual void decaf::util::logging::SimpleLogger::log (const std::string & *message*) [virtual]

No-frills log.

6.563.2.6 virtual void decaf::util::logging::SimpleLogger::mark (const std::string & *message*) [virtual]

Log a Mark Block **Level** (p. 1846) Log.

6.563.2.7 virtual void decaf::util::logging::SimpleLogger::warn (const std::string & *file*, const int *line*, const std::string & *message*) [virtual]

Log a Warning **Level** (p. 1846) Log.

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**SimpleLogger.h**

6.564 activemq::core::SimplePriorityMessageDispatchChannel Class Reference

`#include <src/main/activemq/core/SimplePriorityMessageDispatchChannel.h>`Inheritance diagram for activemq::core::SimplePriorityMessageDispatchChannel:

Public Member Functions

- **SimplePriorityMessageDispatchChannel** ()
- virtual ~**SimplePriorityMessageDispatchChannel** ()
- virtual void **enqueue** (const **Pointer**< **MessageDispatch** > &message)

  Add a Message to the Channel behind all pending message.

- virtual void **enqueueFirst** (const **Pointer**< **MessageDispatch** > &message)

  Add a message to the front of the Channel.

- virtual bool **isEmpty** () const
- virtual bool **isClosed** () const
- virtual bool **isRunning** () const
- virtual **Pointer**< **MessageDispatch** > **dequeue** (long long timeout)

  Used to get an enqueued message.

- virtual **Pointer**< **MessageDispatch** > **dequeueNoWait** ()

  Used to get an enqueued message if there is one queued right now.

- virtual **Pointer**< **MessageDispatch** > **peek** () const

  Peek in the Queue and return the first message in the Channel without removing it from the channel.

- virtual void **start** ()

  Starts dispatch of messages from the Channel.

- virtual void **stop** ()

  Stops dispatch of message from the Channel.

- virtual void **close** ()

  Close this channel no messages will be dispatched after this method is called.

- virtual void **clear** ()

  Clear the Channel, all pending messages are removed.

- virtual int **size** () const
- virtual std::vector< **Pointer**< **MessageDispatch** > > **removeAll** ()

  Remove all messages that are currently in the Channel and return them as a list of Messages.

- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

  Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

6.564.1 Constructor & Destructor Documentation

6.564.1.1 activemq::core::SimplePriorityMessageDispatchChannel::SimplePriorityMessageDispatchC ()

6.564.1.2 virtual activemq::core::SimplePriorityMessageDispatchChannel::~SimplePriorityMessageDispatch () [virtual]

6.564.2 Member Function Documentation

6.564.2.1 virtual void activemq::core::SimplePriorityMessageDispatchChannel::clear () [virtual]

Clear the Channel, all pending messages are removed.

Implements **activemq::core::MessageDispatchChannel** (p. 2138).

6.564.2.2 virtual void activemq::core::SimplePriorityMessageDispatchChannel::close () [virtual]

Close this channel no messages will be dispatched after this method is called.

Implements **activemq::core::MessageDispatchChannel** (p. 2138).

6.564.2.3 virtual Pointer<MessageDispatch> activemq::core::SimplePriorityMessageDispatchChannel::dequeue (long long *timeout*) [virtual]

Used to get an enqueued message. The amount of time this method blocks is based on the timeout value. - if timeout==-1 then it blocks until a message is received. - if timeout==0 then it it tries to not block at all, it returns a message if it is available - if timeout>0 then it blocks up to timeout amount of time. Expired messages will consumed by this method.

Returns:

null if we timeout or if the consumer is closed.

Exceptions:

ActiveMQException

Implements **activemq::core::MessageDispatchChannel** (p. 2138).

6.564.2.4 virtual Pointer<MessageDispatch> activemq::core::SimplePriorityMessageDispatchChannel::dequeueNoWait () [virtual]

Used to get an enqueued message if there is one queued right now. If there is no waiting message than this method returns Null.

Returns:

a message if there is one in the queue.

Implements **activemq::core::MessageDispatchChannel** (p. 2138).

6.564.2.5 virtual void activemq::core::SimplePriorityMessageDispatchChannel::enqueue (const Pointer< MessageDispatch > & *message*) [virtual]

Add a Message to the Channel behind all pending message.

Parameters:

message - The message to add to the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.564.2.6 virtual void activemq::core::SimplePriorityMessageDispatchChannel::enqueueFirst (const Pointer< MessageDispatch > & *message*) [virtual]

Add a message to the front of the Channel.

Parameters:

message - The Message to add to the front of the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.564.2.7 virtual bool activemq::core::SimplePriorityMessageDispatchChannel::isClosed () const [inline, virtual]

Returns:

has the Queue been closed.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.564.2.8 virtual bool activemq::core::SimplePriorityMessageDispatchChannel::isEmpty () const [virtual]

Returns:

true if there are no messages in the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.564.2.9 virtual bool activemq::core::SimplePriorityMessageDispatchChannel::isRunning () const [inline, virtual]

Returns:

true if the Channel currently running and will dequeue message.

Implements **activemq::core::MessageDispatchChannel** (p. 2139).

6.564.2.10 virtual void activemq::core::SimplePriorityMessageDispatchChannel::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

6.564.2.11 virtual void activemq::core::SimplePriorityMessageDispatchChannel::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying one of the waiting **threads** (p. 71).

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.564.2.12 virtual void activemq::core::SimplePriorityMessageDispatchChannel::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying the waiting **threads** (p. 71).

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.564.2.13 virtual Pointer<MessageDispatch> activemq::core::SimplePriorityMessageDispatchChannel::peek () const [virtual]

Peek in the Queue and return the first message in the Channel without removing it from the channel.

Returns:

a message if there is one in the queue.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.564.2.14 virtual std::vector<Pointer<MessageDispatch> > activemq::core::SimplePriorityMessageDispatchChannel::removeAll () [virtual]

Remove all messages that are currently in the Channel and return them as a list of Messages.

Returns:

a list of Messages that was previously in the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.564.2.15 virtual int activemq::core::SimplePriorityMessageDispatchChannel::size () const [virtual]

Returns:

the number of Messages currently in the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.564.2.16 virtual void activemq::core::SimplePriorityMessageDispatchChannel::start () [virtual]

Starts dispatch of messages from the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.564.2.17 virtual void activemq::core::SimplePriorityMessageDispatchChannel::stop () [virtual]

Stops dispatch of message from the Channel.

Implements **activemq::core::MessageDispatchChannel** (p. 2140).

6.564.2.18 virtual bool activemq::core::SimplePriorityMessageDispatchChannel::tryLock () [inline, virtual]

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

6.564.2.19 virtual void activemq::core::SimplePriorityMessageDispatchChannel::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

6.564.2.20 virtual void activemq::core::SimplePriorityMessageDispatchChannel::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.564.2.21 virtual void activemq::core::SimplePriorityMessageDispatchChannel::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.564.2.22 virtual void activemq::core::SimplePriorityMessageDispatchChannel::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

The documentation for this class was generated from the following file:

- src/main/activemq/core/**SimplePriorityMessageDispatchChannel.h**

6.565 decaf::net::Socket Class Reference

`#include <src/main/decaf/net/Socket.h>`Inheritance diagram for decaf::net::Socket:

Public Member Functions

- **Socket** ()

  *Creates an unconnected **Socket** (p. 2755) using the set **SocketImplFactory** (p. 2787) or if non is set than the default SockImpl type is created.*

- **Socket** (**SocketImpl** *impl)

  *Creates a **Socket** (p. 2755) wrapping the provided **SocketImpl** (p. 2779) instance, this **Socket** (p. 2755) is considered unconnected.*

- **Socket** (const **InetAddress** *address, int port)

  *Creates a new **Socket** (p. 2755) instance and connects it to the given address and port.*

- **Socket** (const **InetAddress** *address, int port, const **InetAddress** *localAddress, int localPort)

  *Creates a new **Socket** (p. 2755) instance and connects it to the given address and port.*

- **Socket** (const std::string &host, int port)

  *Creates a new **Socket** (p. 2755) instance and connects it to the given host and port.*

- **Socket** (const std::string &host, int port, const **InetAddress** *localAddress, int localPort)

  *Creates a new **Socket** (p. 2755) instance and connects it to the given host and port.*

- virtual ~**Socket** ()
- virtual void **bind** (const std::string &ipaddress, int port)

  *Binds this **Socket** (p. 2755) to the given local address and port.*

- virtual void **close** ()

  *Closes the **Socket** (p. 2755).*

- virtual void **connect** (const std::string &host, int port)

  Connects to the specified destination.

- virtual void **connect** (const std::string &host, int port, int timeout)

  Connects to the specified destination, with a specified timeout value.

- bool **isConnected** () const

  Indicates whether or not this socket is connected to am end point.

- bool **isClosed** () const
- bool **isBound** () const
- bool **isInputShutdown** () const
- bool **isOutputShutdown** () const
- virtual **decaf::io::InputStream** * **getInputStream** ()

Gets the InputStream for this socket if its connected.

- virtual **decaf::io::OutputStream** * **getOutputStream** ()

  Gets the OutputStream for this socket if it is connected.

- int **getPort** () const

  Gets the on the remote host this ***Socket*** *(*p. 2755*) is connected to.*

- int **getLocalPort** () const

  Gets the local port the socket is bound to.

- std::string **getInetAddress** () const

  Returns the address to which the socket is connected.

- std::string **getLocalAddress** () const

  Gets the local address to which the socket is bound.

- virtual void **shutdownInput** ()

  Shuts down the InputStream for this socket essentially marking it as EOF.

- virtual void **shutdownOutput** ()

  Shuts down the OutputStream for this socket, any data already written to the socket will be sent, any further calls to OuputStream::write will throw an IOException.

- virtual int **getSoLinger** () const

  Gets the linger time for the socket, SO_LINGER.

- virtual void **setSoLinger** (bool state, int timeout)

  Sets the linger time (SO_LINGER) using a specified time value, this limits of this value are platform specific.

- virtual bool **getKeepAlive** () const

  Gets the keep alive flag for this socket, SO_KEEPALIVE.

- virtual void **setKeepAlive** (bool keepAlive)

  Enables/disables the keep alive flag for this socket, SO_KEEPALIVE.

- virtual int **getReceiveBufferSize** () const

  Gets the receive buffer size for this socket, SO_RCVBUF.

- virtual void **setReceiveBufferSize** (int size)

  Sets the receive buffer size for this socket, SO_RCVBUF.

- virtual bool **getReuseAddress** () const

  Gets the reuse address flag, SO_REUSEADDR.

- virtual void **setReuseAddress** (bool reuse)

  Sets the reuse address flag, SO_REUSEADDR.

- virtual int **getSendBufferSize** () const

Gets the send buffer size for this socket, SO_ SNDBUF, this value is used by the platform socket to buffer data written to the socket.

- virtual void **setSendBufferSize** (int size)

  Gets the send buffer size for this socket, SO_ SNDBUF, this value is used by the platform socket to buffer data written to the socket.

- virtual int **getSoTimeout** () const

  Gets the timeout for socket operations, SO_ TIMEOUT.

- virtual void **setSoTimeout** (int timeout)

  Sets the timeout for socket operations, SO_ TIMEOUT.

- virtual bool **getTcpNoDelay** () const

  Gets the Status of the TCP_ NODELAY setting for this socket.

- virtual void **setTcpNoDelay** (bool value)

  Sets the Status of the TCP_ NODELAY param for this socket., this setting is used to disable or enable Nagle's algorithm on the ***Socket*** *(p. 2755).*

- virtual int **getTrafficClass** () const

  Gets the Traffic Class setting for this ***Socket*** *(p. 2755), sometimes referred to as Type of Service setting.*

- virtual void **setTrafficClass** (int value)

  Gets the Traffic Class setting for this ***Socket*** *(p. 2755), sometimes referred to as Type of Service setting.*

- virtual bool **getOOBInline** () const

  Gets the value of the OOBINLINE for this socket.

- virtual void **setOOBInline** (bool value)

  Sets the value of the OOBINLINE for this socket, by default this option is disabled.

- virtual void **sendUrgentData** (int data)

  Sends on byte of urgent data to the ***Socket*** *(p. 2755).*

- virtual std::string **toString** () const

Static Public Member Functions

- static void **setSocketImplFactory** (**SocketImplFactory** *factory)

  Sets the instance of a ***SocketImplFactory*** *(p. 2787) that the* ***Socket*** *(p. 2755) class should use when new instances of this class are created.*

Protected Member Functions

- void **accepted** ()
- void **initSocketImpl** (const std::string &address, int port, const **InetAddress** *localAddress, int localPort)

- void **checkClosed** () const
- void **ensureCreated** () const

Protected Attributes

- **SocketImpl** ∗ **impl**

Friends

- class **ServerSocket**

6.565.1 Detailed Description

Since:

1.0

6.565.2 Constructor & Destructor Documentation

6.565.2.1 decaf::net::Socket::Socket ()

Creates an unconnected **Socket** (p. 2755) using the set **SocketImplFactory** (p. 2787) or if non is set than the default SockImpl type is created.

6.565.2.2 decaf::net::Socket::Socket (SocketImpl ∗ *impl*)

Creates a **Socket** (p. 2755) wrapping the provided **SocketImpl** (p. 2779) instance, this **Socket** (p. 2755) is considered unconnected. The **Socket** (p. 2755) class takes ownership of this **SocketImpl** (p. 2779) pointer and will delete it when the **Socket** (p. 2755) class is destroyed.

Parameters:

impl The **SocketImpl** (p. 2779) instance to wrap.

Exceptions:

NullPointerException if the passed **SocketImpl** (p. 2779) is Null.

6.565.2.3 decaf::net::Socket::Socket (const InetAddress ∗ *address*, int *port*)

Creates a new **Socket** (p. 2755) instance and connects it to the given address and port. If there is a **SocketImplFactory** (p. 2787) set then the SokcetImpl is created using the factory otherwise the default **Socket** (p. 2755) implementation is used.

If the host parameter is empty then the loop back address is used.

Parameters:

address The address to connect to.

port The port number to connect to [0...65535]

Exceptions:

UnknownHostException *(*p. *3138)* if the host cannot be resolved.

IOException if an I/O error occurs while connecting the **Socket** (p. 2755).

NullPointerException if the **InetAddress** (p. 1666) instance in NULL.

IllegalArgumentException if the port if not in range [0...65535]

6.565.2.4 decaf::net::Socket::Socket (const InetAddress * *address*, int *port*, const InetAddress * *localAddress*, int *localPort*)

Creates a new **Socket** (p. 2755) instance and connects it to the given address and port. If there is a **SocketImplFactory** (p. 2787) set then the SokcetImpl is created using the factory otherwise the default **Socket** (p. 2755) implementation is used. The **Socket** (p. 2755) will also bind to the local address and port specified.

Parameters:

address The address to connect to.

port The port number to connect to [0...65535]

localAddress The IP address on the local machine to bind to.

localPort The port on the local machine to bind to.

Exceptions:

UnknownHostException *(*p. *3138)* if the host cannot be resolved.

IOException if an I/O error occurs while connecting the **Socket** (p. 2755).

NullPointerException if the **InetAddress** (p. 1666) instance in NULL.

IllegalArgumentException if the port if not in range [0...65535]

6.565.2.5 decaf::net::Socket::Socket (const std::string & *host*, int *port*)

Creates a new **Socket** (p. 2755) instance and connects it to the given host and port. If there is a **SocketImplFactory** (p. 2787) set then the SokcetImpl is created using the factory otherwise the default **Socket** (p. 2755) implementation is used.

If the host parameter is empty then the loop back address is used.

Parameters:

host The host name or IP address to connect to, empty string means loopback.

port The port number to connect to [0...65535]

Exceptions:

UnknownHostException *(*p. *3138)* if the host cannot be resolved.

IOException if an I/O error occurs while connecting the **Socket** (p. 2755).

IllegalArgumentException if the port if not in range [0...65535]

6.565.2.6 decaf::net::Socket::Socket (const std::string & *host*, int *port*, const InetAddress * *localAddress*, int *localPort*)

Creates a new **Socket** (p. 2755) instance and connects it to the given host and port. If there is a **SocketImplFactory** (p. 2787) set then the SokcetImpl is created using the factory otherwise the default **Socket** (p. 2755) implementation is used.

If the host parameter is empty then the loop back address is used.

Parameters:

host The host name or IP address to connect to, empty string means loopback.

port The port number to connect to [0...65535]

localAddress The IP address on the local machine to bind to.

localPort The port on the local machine to bind to.

Exceptions:

UnknownHostException *(p. 3138)* if the host cannot be resolved.

IOException if an I/O error occurs while connecting the **Socket** (p. 2755).

IllegalArgumentException if the port if not in range [0...65535]

6.565.2.7 virtual decaf::net::Socket::~Socket () [virtual]

6.565.3 Member Function Documentation

6.565.3.1 void decaf::net::Socket::accepted () [protected]

6.565.3.2 virtual void decaf::net::Socket::bind (const std::string & *ipaddress*, int *port*) [virtual]

Binds this **Socket** (p. 2755) to the given local address and port. If the **SocketAddress** (p. 2770) value is NULL then the **Socket** (p. 2755) will be bound to an available local address and port.

Parameters:

ipaddress The local address and port to bind the socket to.

port The port on the local machine to bind to.

Exceptions:

IOException if an error occurs during the bind operation.

IllegalArgumentException if the **Socket** (p. 2755) can't process the subclass of **SocketAddress** (p. 2770) that has been provided.

6.565.3.3 void decaf::net::Socket::checkClosed () const [protected]

6.565.3.4 virtual void decaf::net::Socket::close () [virtual]

Closes the **Socket** (p. 2755). Once closed a **Socket** (p. 2755) cannot be connected or otherwise operated upon, a new **Socket** (p. 2755) instance must be created.

Exceptions:

IOException if an I/O error occurs while closing the **Socket** (p. 2755).

Implements **decaf::io::Closeable** (p. 961).

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2285).

6.565.3.5 virtual void decaf::net::Socket::connect (const std::string & *host*, int *port*, int *timeout*) [virtual]

Connects to the specified destination, with a specified timeout value. If a connection to the remote host is not established within the specified timeout interval than an **SocketTimeoutException** (p. 2792) is thrown. A timeout value of zero is treated as an inifinite timeout.

Parameters:

host The host name or IP address of the remote host to connect to.

port The port on the remote host to connect to.

timeout The number of Milliseconds to wait before treating the connection as failed.

Exceptions:

IOException Thrown if a failure occurred in the connect.

SocketTimeoutException *(p. 2792)* if the timeout for connection is exceeded.

IllegalArguementException if the timeout value is negative or the endpoint is invalid.

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2285).

6.565.3.6 virtual void decaf::net::Socket::connect (const std::string & *host*, int *port*) [virtual]

Connects to the specified destination.

Parameters:

host The host name or IP address of the remote host to connect to.

port The port on the remote host to connect to.

Exceptions:

IOException Thrown if a failure occurred in the connect.

IllegalArguementException if the timeout value is negative or the endpoint is invalid.

6.565.3.7 void decaf::net::Socket::ensureCreated () const [protected]

6.565.3.8 std::string decaf::net::Socket::getInetAddress () const

Returns the address to which the socket is connected.

Returns:

the remote IP address to which this socket is connected, or null if the socket is not connected.

6.565.3.9 virtual decaf::io::InputStream* decaf::net::Socket::getInputStream () [virtual]

Gets the InputStream for this socket if its connected. The pointer returned is the property of the associated **Socket** (p. 2755) and should not be deleted by the caller.

When the returned InputStream is performing a blocking operation and the underlying connection is closed or otherwise broker the read calls will normally throw an exception to indicate the failure.

Closing the InputStream will also close the underlying **Socket** (p. 2755).

Returns:

The InputStream for this socket.

Exceptions:

IOException if an error occurs during creation of the InputStream, also if the **Socket** (p. 2755) is not connected or the input has been shutdown previously.

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2286).

6.565.3.10 virtual bool decaf::net::Socket::getKeepAlive () const [virtual]

Gets the keep alive flag for this socket, SO_KEEPALIVE.

Returns:

true if keep alive is enabled for this socket.

Exceptions:

SocketException *(p. 2772)* if the operation fails.

6.565.3.11 std::string decaf::net::Socket::getLocalAddress () const

Gets the local address to which the socket is bound.

Returns:

the local address to which the socket is bound or InetAddress.anyLocalAddress() if the socket is not bound yet.

6.565.3.12 int decaf::net::Socket::getLocalPort () const

Gets the local port the socket is bound to.

Returns:

the local port the socket was bound to, or -1 if the socket is not bound.

6.565.3.13 virtual bool decaf::net::Socket::getOOBInline () const [virtual]

Gets the value of the OOBINLINE for this socket.

Returns:

true if OOBINLINE is enabled, false otherwise.

Exceptions:

SocketException *(*p. *2772)* if an error is encountered while performing this operation.

6.565.3.14 virtual decaf::io::OutputStream* decaf::net::Socket::getOutputStream () [virtual]

Gets the OutputStream for this socket if it is connected. The pointer returned is the property of the **Socket** (p. 2755) instance and should not be deleted by the caller.

Closing the returned **Socket** (p. 2755) will also close the underlying **Socket** (p. 2755).

Returns:

the OutputStream for this socket.

Exceptions:

IOException if an error occurs during the creation of this OutputStream, or if the **Socket** (p. 2755) is closed or the output has been shutdown previously.

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2287).

6.565.3.15 int decaf::net::Socket::getPort () const

Gets the on the remote host this **Socket** (p. 2755) is connected to.

Returns:

the port on the remote host the socket is connected to, or 0 if not connected.

6.565.3.16 virtual int decaf::net::Socket::getReceiveBufferSize () const [virtual]

Gets the receive buffer size for this socket, SO_RCVBUF. This is the buffer used by the underlying platform socket to buffer received data.

Returns:

the receive buffer size in bytes.

Exceptions:

SocketException *(*p. *2772)* if the operation fails.

6.565.3.17 virtual bool decaf::net::Socket::getReuseAddress () const [virtual]

Gets the reuse address flag, SO_REUSEADDR.

Returns:

True if the address can be reused.

Exceptions:

SocketException *(*p. *2772)* if the operation fails.

6.565.3.18 virtual int decaf::net::Socket::getSendBufferSize () const [virtual]

Gets the send buffer size for this socket, SO_SNDBUF, this value is used by the platform socket to buffer data written to the socket.

Returns:

the size in bytes of the send buffer.

Exceptions:

SocketException *(*p. *2772)* if the operation fails.

6.565.3.19 virtual int decaf::net::Socket::getSoLinger () const [virtual]

Gets the linger time for the socket, SO_LINGER. A return value of -1 indicates that the option is disabled.

Returns:

The linger time in seconds.

Exceptions:

SocketException *(*p. *2772)* if the operation fails.

6.565.3.20 virtual int decaf::net::Socket::getSoTimeout () const [virtual]

Gets the timeout for socket operations, SO_TIMEOUT.

Returns:

The timeout in milliseconds for socket operations.

Exceptions:

SocketException *(*p. *2772)* Thrown if unable to retrieve the information.

6.565.3.21 virtual bool decaf::net::Socket::getTcpNoDelay () const [virtual]

Gets the Status of the TCP_NODELAY setting for this socket.

Returns:

true if TCP_NODELAY is enabled for the socket.

Exceptions:

SocketException *(*p. *2772)* Thrown if unable to set the information.

6.565.3.22 virtual int decaf::net::Socket::getTrafficClass () const [virtual]

Gets the Traffic Class setting for this **Socket** (p. 2755), sometimes referred to as Type of Service setting. This setting is dependent on the underlying network implementation for the platform this **Socket** (p. 2755) runs on and is not guaranteed to have any effect.

Refer to your platforms network documentation regarding support for this setting.

Returns:

the bitset result of querying the traffic class setting.

Exceptions:

SocketException *(*p. *2772)* if an error is encountered while performing this operation.

6.565.3.23 void decaf::net::Socket::initSocketImpl (const std::string & *address*, int *port*, const InetAddress * *localAddress*, int *localPort*) [protected]

6.565.3.24 bool decaf::net::Socket::isBound () const [inline]

Returns:

true if this **Socket** (p. 2755) has been bound to a Local address.

6.565.3.25 bool decaf::net::Socket::isClosed () const [inline]

Returns:

true if the **Socket** (p. 2755) has been closed.

6.565.3.26 bool decaf::net::Socket::isConnected () const [inline]

Indicates whether or not this socket is connected to am end point.

Returns:

true if connected, false otherwise.

6.565.3.27 bool decaf::net::Socket::isInputShutdown () const [inline]

Returns:

true if input on this **Socket** (p. 2755) has been shutdown.

6.565.3.28 bool decaf::net::Socket::isOutputShutdown () const [inline]

Returns:

true if output on this **Socket** (p. 2755) has been shutdown.

6.565.3.29 virtual void decaf::net::Socket::sendUrgentData (int *data*) [virtual]

Sends on byte of urgent data to the **Socket** (p. 2755).

Parameters:

data The value to write as urgent data, only the lower eight bits are sent.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2288).

6.565.3.30 virtual void decaf::net::Socket::setKeepAlive (bool *keepAlive*) [virtual]

Enables/disables the keep alive flag for this socket, SO_KEEPALIVE.

Parameters:

keepAlive If true, enables the flag.

Exceptions:

SocketException *(p. 2772)* if the operation fails.

6.565.3.31 virtual void decaf::net::Socket::setOOBInline (bool *value*) [virtual]

Sets the value of the OOBINLINE for this socket, by default this option is disabled. If enabled the urgent data is read inline on the Socket's InputStream, no notification is give.

Returns:

true if OOBINLINE is enabled, false otherwise.

Exceptions:

SocketException *(p. 2772)* if an error is encountered while performing this operation.

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2290).

6.565.3.32 virtual void decaf::net::Socket::setReceiveBufferSize (int *size*) [virtual]

Sets the receive buffer size for this socket, SO_RCVBUF.

Parameters:

size Number of bytes to set the receive buffer to.

Exceptions:

SocketException *(p. 2772)* if the operation fails.
IllegalArgumentException if the value is zero or negative.

6.565.3.33 virtual void decaf::net::Socket::setReuseAddress (bool *reuse*) [virtual]

Sets the reuse address flag, SO_REUSEADDR.

Parameters:

reuse If true, sets the flag.

Exceptions:

SocketException *(p. 2772)* if the operation fails.

6.565.3.34 virtual void decaf::net::Socket::setSendBufferSize (int *size*) [virtual]

Gets the send buffer size for this socket, SO_SNDBUF, this value is used by the platform socket to buffer data written to the socket.

Parameters:

size The number of bytes to set the send buffer to, must be larger than zero.

Exceptions:

SocketException *(p. 2772)* if the operation fails.
IllegalArgumentException if the value is zero or negative.

6.565.3.35 static void decaf::net::Socket::setSocketImplFactory (SocketImplFactory * *factory*) [static]

Sets the instance of a **SocketImplFactory** (p. 2787) that the **Socket** (p. 2755) class should use when new instances of this class are created. This method is only allowed to be used once during the lifetime of the application.

Parameters:

factory The instance of a **SocketImplFactory** (p. 2787) to use when new **Socket** (p. 2755) objects are created.

Exceptions:

IOException if an I/O error occurs while performing this operation.
SocketException *(p. 2772)* if this method has already been called with a valid factory.

6.565.3.36 virtual void decaf::net::Socket::setSoLinger (bool *state*, int *timeout*) [virtual]

Sets the linger time (SO_LINGER) using a specified time value, this limits of this value are platform specific.

Parameters:

state The state of SO_LINGER, true is on.

timeout The linger time in seconds, must be non-negative.

Exceptions:

SocketException *(p. 2772)* if the operation fails.

IllegalArgumentException if state is true and timeout is negative.

6.565.3.37 virtual void decaf::net::Socket::setSoTimeout (int *timeout*) [virtual]

Sets the timeout for socket operations, SO_TIMEOUT. A value of zero indicates that timeout is infinite for operations on this socket.

Parameters:

timeout The timeout in milliseconds for socket operations.

Exceptions:

SocketException *(p. 2772)* Thrown if unable to set the information.

IllegalArgumentException if the timeout value is negative.

6.565.3.38 virtual void decaf::net::Socket::setTcpNoDelay (bool *value*) [virtual]

Sets the Status of the TCP_NODELAY param for this socket., this setting is used to disable or enable Nagle's algorithm on the **Socket** (p. 2755).

Parameters:

value The setting for the socket's TCP_NODELAY option, true to enable.

Exceptions:

SocketException *(p. 2772)* Thrown if unable to set the information.

6.565.3.39 virtual void decaf::net::Socket::setTrafficClass (int *value*) [virtual]

Gets the Traffic Class setting for this **Socket** (p. 2755), sometimes referred to as Type of Service setting. This setting is dependent on the underlying network implementation for the platform this **Socket** (p. 2755) runs on and is not guaranteed to have any effect.

Refer to your platforms network documentation regarding support for this setting.

Parameters:

value The integer value representing the traffic class setting bitset.

Exceptions:

SocketException *(*p. *2772)* if an error is encountered while performing this operation.

IllegalArgumentException if the value is not in the range [0..255].

6.565.3.40 virtual void decaf::net::Socket::shutdownInput () [virtual]

Shuts down the InputStream for this socket essentially marking it as EOF. The stream returns EOF for any calls to read after this method has been called.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2291).

6.565.3.41 virtual void decaf::net::Socket::shutdownOutput () [virtual]

Shuts down the OutputStream for this socket, any data already written to the socket will be sent, any further calls to OuputStream::write will throw an IOException.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2291).

6.565.3.42 virtual std::string decaf::net::Socket::toString () const [virtual]

Returns:

a string representing this **Socket** (p. 2755).

6.565.4 Friends And Related Function Documentation

6.565.4.1 friend class ServerSocket [friend]

6.565.5 Field Documentation

6.565.5.1 SocketImpl* decaf::net::Socket::impl [mutable, protected]

The documentation for this class was generated from the following file:

- src/main/decaf/net/**Socket.h**

6.566 decaf::net::SocketAddress Class Reference

Base class for protocol specific **Socket** (p. 2755) addresses.

`#include <src/main/decaf/net/SocketAddress.h>`Inheritance diagram for decaf::net::SocketAddress:

Public Member Functions

- virtual ~**SocketAddress** ()

6.566.1 Detailed Description

Base class for protocol specific **Socket** (p. 2755) addresses. These classes provide an immutable address object that is used by the **Socket** (p. 2755) classes.

Since:

1.0

6.566.2 Constructor & Destructor Documentation

6.566.2.1 virtual decaf::net::SocketAddress::~SocketAddress () [virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/net/**SocketAddress.h**

6.567 decaf::net::SocketError Class Reference

Static utility class to simplify handling of error codes for socket operations.

`#include <src/main/decaf/net/SocketError.h>`

Static Public Member Functions

- static int **getErrorCode** ()
  Gets the last error appropriate for the platform.
- static std::string **getErrorString** ()
  Gets the string description for the last error.

6.567.1 Detailed Description

Static utility class to simplify handling of error codes for socket operations.

6.567.2 Member Function Documentation

6.567.2.1 static int decaf::net::SocketError::getErrorCode () [static]

Gets the last error appropriate for the platform.

6.567.2.2 static std::string decaf::net::SocketError::getErrorString () [static]

Gets the string description for the last error.

The documentation for this class was generated from the following file:

- src/main/decaf/net/**SocketError.h**

6.568 decaf::net::SocketException Class Reference

Exception for errors when manipulating sockets.

`#include <src/main/decaf/net/SocketException.h>`Inheritance diagram for decaf::net::SocketException:

Public Member Functions

- **SocketException** ()
- **SocketException** (const **lang::Exception** &ex)
- **SocketException** (const **SocketException** &ex)
- **SocketException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **SocketException** (const std::exception *cause)

  Constructor.

- **SocketException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **SocketException** * **clone** () const

  Clones this exception.

- virtual ~**SocketException** () throw ()

6.568.1 Detailed Description

Exception for errors when manipulating sockets.

6.568.2 Constructor & Destructor Documentation

6.568.2.1 decaf::net::SocketException::SocketException ()

6.568.2.2 decaf::net::SocketException::SocketException (const lang::Exception & *ex*)

6.568.2.3 decaf::net::SocketException::SocketException (const SocketException & *ex*)

6.568.2.4 decaf::net::SocketException::SocketException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.568.2.5 decaf::net::SocketException::SocketException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.568.2.6 decaf::net::SocketException::SocketException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.568.2.7 virtual decaf::net::SocketException::~SocketException () throw () [virtual]

6.568.3 Member Function Documentation

6.568.3.1 virtual SocketException* decaf::net::SocketException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::io::IOException** (p. 1775).

Reimplemented in **decaf::internal::net::ssl::openssl::OpenSSLSocketException** (p. 2295), **decaf::net::BindException** (p. 669), **decaf::net::ConnectException** (p. 1082), **decaf::net::NoRouteToHostException** (p. 2243), and **decaf::net::PortUnreachableException** (p. 2381).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**SocketException.h**

6.569 decaf::net::SocketFactory Class Reference

The **SocketFactory** (p. 2774) is used to create **Socket** (p. 2755) objects and can be sub-classed to provide other types of Sockets or Sockets with varying configurations.

`#include <src/main/decaf/net/SocketFactory.h>`Inheritance diagram for decaf::net::SocketFactory:

Public Member Functions

- virtual ~**SocketFactory** ()
- virtual **Socket** * **createSocket** ()

  *Creates an unconnected **Socket** (p. 2755) object.*

- virtual **Socket** * **createSocket** (const **InetAddress** *host, int port)=0

  *Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).*

- virtual **Socket** * **createSocket** (const **InetAddress** *host, int port, const **InetAddress** *ifAddress, int localPort)=0

  *Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).*

- virtual **Socket** * **createSocket** (const std::string &name, int port)=0

  *Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).*

- virtual **Socket** * **createSocket** (const std::string &name, int port, const **InetAddress** *ifAddress, int localPort)=0

  *Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).*

Static Public Member Functions

- static **SocketFactory** * **getDefault** ()

  *Returns an pointer to the default **SocketFactory** (p. 2774) for this Application, there is only one default **SocketFactory** (p. 2774) per application, the pointer returned by this method is owned by the **SocketFactory** (p. 2774) class and in not to be deleted by the caller.*

Protected Member Functions

- **SocketFactory** ()

6.569.1 Detailed Description

The **SocketFactory** (p. 2774) is used to create **Socket** (p. 2755) objects and can be sub-classed to provide other types of Sockets or Sockets with varying configurations.

See also:

decaf.net.Socket (p. 2755)

Since:

1.0

6.569.2 Constructor & Destructor Documentation

6.569.2.1 decaf::net::SocketFactory::SocketFactory () [protected]

6.569.2.2 virtual decaf::net::SocketFactory::~SocketFactory () [virtual]

6.569.3 Member Function Documentation

6.569.3.1 virtual Socket* decaf::net::SocketFactory::createSocket (const std::string & *name*, int *port*, const InetAddress * *ifAddress*, int *localPort*) [pure virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host name or IP address to connect the socket to.

port The port on the remote host to connect to.

ifAddress The address on the local machine to bind the **Socket** (p. 2755) to.

localPort The local port to bind the **Socket** (p. 2755) to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implemented in **decaf::internal::net::DefaultSocketFactory** (p. 1326), **decaf::internal::net::ssl::DefaultSSLSocketFactory** (p. 1338), and **decaf::internal::net::ssl::openssl::OpenSSLSocketFactory** (p. 2300).

6.569.3.2 virtual Socket* decaf::net::SocketFactory::createSocket (const std::string & *name*, int *port*) [pure virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host name or IP address to connect the socket to.

port The port on the remote host to connect to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implemented in **decaf::internal::net::DefaultSocketFactory** (p. 1327), **decaf::internal::net::ssl::DefaultSSLSocketFactory** (p. 1338), and **decaf::internal::net::ssl::openssl::OpenSSLSocketFactory** (p. 2300).

6.569.3.3 virtual Socket* decaf::net::SocketFactory::createSocket (const InetAddress * *host*, int *port*, const InetAddress * *ifAddress*, int *localPort*) [pure virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774). The **Socket** (p. 2755) will be bound to the specified local address and port.

Parameters:

host The host to connect the socket to.

port The port on the remote host to connect to.

ifAddress The address on the local machine to bind the **Socket** (p. 2755) to.

localPort The local port to bind the **Socket** (p. 2755) to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implemented in **decaf::internal::net::DefaultSocketFactory** (p. 1327), **decaf::internal::net::ssl::DefaultSSLSocketFactory** (p. 1339), and **decaf::internal::net::ssl::openssl::OpenSSLSocketFactory** (p. 2301).

6.569.3.4 virtual Socket* decaf::net::SocketFactory::createSocket (const InetAddress * *host*, int *port*) [pure virtual]

Creates a new **Socket** (p. 2755) object and connects it to the specified remote host and port using the configuration of this **SocketFactory** (p. 2774).

Parameters:

host The host to connect the socket to.

port The port on the remote host to connect to.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if an I/O error occurs while creating the **Socket** (p. 2755) object.

UnknownHostException *(p. 3138)* if the host name is not known.

Implemented in **decaf::internal::net::DefaultSocketFactory** (p. 1328), **decaf::internal::net::ssl::DefaultSSLSocketFactory** (p. 1339), and **decaf::internal::net::ssl::openssl::OpenSSLSocketFactory** (p. 2301).

6.569.3.5 virtual Socket* decaf::net::SocketFactory::createSocket () [virtual]

Creates an unconnected **Socket** (p. 2755) object.

Returns:

a new **Socket** (p. 2755) object, caller must free this object when done.

Exceptions:

IOException if the **Socket** (p. 2755) cannot be created.

Reimplemented in **decaf::internal::net::DefaultSocketFactory** (p. 1328), **decaf::internal::net::ssl::DefaultSSLSocketFactory** (p. 1340), and **decaf::internal::net::ssl::openssl::OpenSSLSocketFactory** (p. 2302).

6.569.3.6 static SocketFactory* decaf::net::SocketFactory::getDefault () [static]

Returns an pointer to the default **SocketFactory** (p. 2774) for this Application, there is only one default **SocketFactory** (p. 2774) per application, the pointer returned by this method is owned by the **SocketFactory** (p. 2774) class and in not to be deleted by the caller.

Returns:

pointer to the applications default **SocketFactory** (p. 2774).

Exceptions:

SocketException *(p. 2772)* if an error occurs while getting the default instance.

Reimplemented in **decaf::net::ssl::SSLSocketFactory** (p. 2822).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**SocketFactory.h**

6.570 decaf::internal::net::SocketFileDescriptor Class Reference

File Descriptor type used internally by Decaf Socket objects.

`#include <src/main/decaf/internal/net/SocketFileDescriptor.h>`Inheritance diagram for decaf::internal::net::SocketFileDescriptor:

Public Member Functions

- **SocketFileDescriptor** (long value)
- virtual ~**SocketFileDescriptor** ()
- long **getValue** () const

  Gets the OS Level FileDescriptor.

6.570.1 Detailed Description

File Descriptor type used internally by Decaf Socket objects.

Since:

1.0

6.570.2 Constructor & Destructor Documentation

6.570.2.1 decaf::internal::net::SocketFileDescriptor::SocketFileDescriptor (long *value*)

6.570.2.2 virtual decaf::internal::net::SocketFileDescriptor::~SocketFileDescriptor () `[virtual]`

6.570.3 Member Function Documentation

6.570.3.1 long decaf::internal::net::SocketFileDescriptor::getValue () const

Gets the OS Level FileDescriptor.

Returns:

a FileDescriptor value.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/**SocketFileDescriptor.h**

6.571 decaf::net::SocketImpl Class Reference

Acts as a base class for all physical **Socket** (p. 2755) implementations.

`#include <src/main/decaf/net/SocketImpl.h>`Inheritance diagram for decaf::net::SocketImpl:

Public Member Functions

- **SocketImpl** ()
- virtual ~**SocketImpl** ()
- virtual void **create** ()=0

  *Creates the underlying platform **Socket** (p. 2755) data structures which allows for **Socket** (p. 2755) options to be applied.*

- virtual void **accept** (**SocketImpl** *socket)=0

  *Accepts a new connection on the given **Socket** (p. 2755).*

- virtual void **connect** (const std::string &hostname, int **port**, int timeout)=0

  Connects this socket to the given host and port.

- virtual void **bind** (const std::string &ipaddress, int **port**)=0

  *Binds this **Socket** (p. 2755) instance to the local ip address and port number given.*

- virtual void **listen** (int backlog)=0

  Sets the maximum queue length for incoming connection indications (a request to connect) to the count argument.

- virtual **decaf::io::InputStream** * **getInputStream** ()=0

  *Gets the InputStream linked to this **Socket** (p. 2755).*

- virtual **decaf::io::OutputStream** * **getOutputStream** ()=0

  *Gets the OutputStream linked to this **Socket** (p. 2755).*

- virtual int **available** ()=0

  *Gets the number of bytes that can be read from the **Socket** (p. 2755) without blocking.*

- virtual void **close** ()=0

  Closes the socket, terminating any blocked reads or writes.

- virtual void **shutdownInput** ()=0

  Places the input stream for this socket at "end of stream".

- virtual void **shutdownOutput** ()=0

  Disables the output stream for this socket.

- virtual int **getOption** (int option) const =0

  *Gets the specified **Socket** (p. 2755) option.*

- virtual void **setOption** (int option, int value)=0

  *Sets the specified option on the **Socket** (p. 2755) if supported.*

- int **getPort** () const

  Gets the port that this socket has been assigned.

- int **getLocalPort** () const

  Gets the value of this SocketImpl's local port field.

- std::string **getInetAddress** () const

  Gets the value of this SocketImpl's address field.

- const **decaf::io::FileDescriptor** * **getFileDescriptor** () const

  *Gets the FileDescriptor for this **Socket** (p. 2755), the Object is owned by this **Socket** (p. 2755) and should not be deleted by the caller.*

- virtual std::string **getLocalAddress** () const =0

  *Gets the value of the local Inet address the **Socket** (p. 2755) is bound to if bound, otherwise return the **InetAddress** (p. 1666) ANY value "0.0.0.0".*

- std::string **toString** () const

  *Returns a string containing the address and port of this **Socket** (p. 2755) instance.*

- virtual bool **supportsUrgentData** () const
- virtual void **sendUrgentData** (int data)

  *Sends on byte of urgent data to the **Socket** (p. 2755).*

Protected Attributes

- int **port**

  *The remote port that this **Socket** (p. 2755) is connected to.*

- int **localPort**

  *The port on the Local Machine that this **Socket** (p. 2755) is Bound to.*

- std::string **address**

  *The Remote Address that the **Socket** (p. 2755) is connected to.*

- **io::FileDescriptor** * **fd**

  *The File Descriptor for this **Socket** (p. 2755).*

6.571.1 Detailed Description

Acts as a base class for all physical **Socket** (p. 2755) implementations.

Since:

1.0

6.571.2 Constructor & Destructor Documentation

6.571.2.1 decaf::net::SocketImpl::SocketImpl ()

6.571.2.2 virtual decaf::net::SocketImpl::~SocketImpl () [virtual]

6.571.3 Member Function Documentation

6.571.3.1 virtual void decaf::net::SocketImpl::accept (SocketImpl * *socket*) [pure virtual]

Accepts a new connection on the given **Socket** (p. 2755).

Parameters:

socket The accepted connection.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

SocketException (p. *2772*) if an error occurs while performing an Accept on the socket.

SocketTimeoutException (p. *2792*) if the accept call times out due to SO_TIMEOUT being set.

6.571.3.2 virtual int decaf::net::SocketImpl::available () [pure virtual]

Gets the number of bytes that can be read from the **Socket** (p. 2755) without blocking.

Returns:

the number of bytes that can be read from the **Socket** (p. 2755) without blocking.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2979).

6.571.3.3 virtual void decaf::net::SocketImpl::bind (const std::string & *ipaddress*, int *port*) [pure virtual]

Binds this **Socket** (p. 2755) instance to the local ip address and port number given.

Parameters:

ipaddress The address of local ip to bind to.

port The port number on the host to bind to.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2979).

6.571.3.4 virtual void decaf::net::SocketImpl::close () [pure virtual]

Closes the socket, terminating any blocked reads or writes.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2979).

6.571.3.5 virtual void decaf::net::SocketImpl::connect (const std::string & *hostname*, int *port*, int *timeout*) [pure virtual]

Connects this socket to the given host and port.

Parameters:

hostname The name of the host to connect to, or IP address.

port The port number on the host to connect to.

timeout Time in milliseconds to wait for a connection, 0 indicates forever.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

SocketTimeoutException *(*p. *2792)* if the connect call times out due to timeout being set.

IllegalArguementException if a parameter has an illegal value.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2980).

6.571.3.6 virtual void decaf::net::SocketImpl::create () [pure virtual]

Creates the underlying platform **Socket** (p. 2755) data structures which allows for **Socket** (p. 2755) options to be applied. The created socket is in an unconnected state.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2980).

6.571.3.7 const decaf::io::FileDescriptor* decaf::net::SocketImpl::getFileDescriptor () const [inline]

Gets the FileDescriptor for this **Socket** (p. 2755), the Object is owned by this **Socket** (p. 2755) and should not be deleted by the caller.

Returns:

a pointer to this Socket's FileDescriptor object.

6.571.3.8 std::string decaf::net::SocketImpl::getInetAddress () const [inline]

Gets the value of this SocketImpl's address field.

Returns:

the value of the address field.

6.571.3.9 virtual decaf::io::InputStream* decaf::net::SocketImpl::getInputStream () [pure virtual]

Gets the InputStream linked to this **Socket** (p. 2755).

Returns:

an InputStream pointer owned by the **Socket** (p. 2755) object.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2980).

6.571.3.10 virtual std::string decaf::net::SocketImpl::getLocalAddress () const [pure virtual]

Gets the value of the local Inet address the **Socket** (p. 2755) is bound to if bound, otherwise return the **InetAddress** (p. 1666) ANY value "0.0.0.0".

Returns:

the local address bound to, or ANY.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2980).

6.571.3.11 int decaf::net::SocketImpl::getLocalPort () const [inline]

Gets the value of this SocketImpl's local port field.

Returns:

the value of localPort.

6.571.3.12 virtual int decaf::net::SocketImpl::getOption (int *option*) const [pure virtual]

Gets the specified **Socket** (p. 2755) option.

Parameters:

option The **Socket** (p. 2755) options whose value is to be retrieved.

Returns:

the value of the given socket option.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2981).

6.571.3.13 virtual decaf::io::OutputStream* decaf::net::SocketImpl::getOutputStream () [pure virtual]

Gets the OutputStream linked to this **Socket** (p. 2755).

Returns:

an OutputStream pointer owned by the **Socket** (p. 2755) object.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2981).

6.571.3.14 int decaf::net::SocketImpl::getPort () const [inline]

Gets the port that this socket has been assigned.

Returns:

the Socket's port number.

6.571.3.15 virtual void decaf::net::SocketImpl::listen (int *backlog*) [pure virtual]

Sets the maximum queue length for incoming connection indications (a request to connect) to the count argument. If a connection indication arrives when the queue is full, the connection is refused.

Parameters:

backlog The maximum length of the connection queue.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2982).

6.571.3.16 virtual void decaf::net::SocketImpl::sendUrgentData (int *data*) [virtual]

Sends on byte of urgent data to the **Socket** (p. 2755).

Parameters:

data The value to write as urgent data, only the lower eight bits are sent.

Exceptions:

IOException if an I/O error occurs while performing this operation.

6.571.3.17 virtual void decaf::net::SocketImpl::setOption (int *option*, int *value*) [pure virtual]

Sets the specified option on the **Socket** (p. 2755) if supported.

Parameters:

option The **Socket** (p. 2755) option to set.

value The value of the socket option to apply to the socket.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2982).

6.571.3.18 virtual void decaf::net::SocketImpl::shutdownInput () [pure virtual]

Places the input stream for this socket at "end of stream". Any data sent to this socket is acknowledged and then silently discarded. If you read from a socket input stream after invoking **shutdownInput()** (p. 2785) on the socket, the stream will return EOF.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2983).

6.571.3.19 virtual void decaf::net::SocketImpl::shutdownOutput () [pure virtual]

Disables the output stream for this socket. For a TCP socket, any previously written data will be sent followed by TCP's normal connection termination sequence. If you write to a socket output stream after invoking **shutdownOutput()** (p. 2785) on the socket, the stream will throw an IOException.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implemented in **decaf::internal::net::tcp::TcpSocket** (p. 2983).

6.571.3.20 virtual bool decaf::net::SocketImpl::supportsUrgentData () const [inline, virtual]

Returns:

true if this **SocketImpl** (p. 2779) supports sending Urgent Data. The default implementation always returns false.

6.571.3.21 std::string decaf::net::SocketImpl::toString () const

Returns a string containing the address and port of this **Socket** (p. 2755) instance.

Returns:

a string containing the address and port of this socket.

6.571.4 Field Documentation

6.571.4.1 std::string decaf::net::SocketImpl::address [protected]

The Remote Address that the **Socket** (p. 2755) is connected to.

6.571.4.2 io::FileDescriptor* decaf::net::SocketImpl::fd [protected]

The File Descriptor for this **Socket** (p. 2755).

6.571.4.3 int decaf::net::SocketImpl::localPort [protected]

The port on the Local Machine that this **Socket** (p. 2755) is Bound to.

6.571.4.4 int decaf::net::SocketImpl::port [protected]

The remote port that this **Socket** (p. 2755) is connected to.

The documentation for this class was generated from the following file:

- src/main/decaf/net/**SocketImpl.h**

6.572 decaf::net::SocketImplFactory Class Reference

Factory class interface for a Factory that creates ScoketImpl objects.

`#include <src/main/decaf/net/SocketImplFactory.h>`

Public Member Functions

- virtual ~**SocketImplFactory** ()
- virtual **SocketImpl** * **createSocketImpl** ()=0

  *Creates a new SokcetImpl instance and returns it, the caller then owns the instance and must delete it when finished with the **SocketImpl** (p. 2779).*

6.572.1 Detailed Description

Factory class interface for a Factory that creates ScoketImpl objects. These factories can be used to create various types of Sockets, e.g. Streaming, Multicast, SSL, or platform specific variations of these types.

See also:

decaf::net::Socket (p. 2755)
decaf::net::ServerSocket (p. 2644)

Since:

1.0

6.572.2 Constructor & Destructor Documentation

6.572.2.1 virtual decaf::net::SocketImplFactory::~SocketImplFactory () [virtual]

6.572.3 Member Function Documentation

6.572.3.1 virtual SocketImpl* decaf::net::SocketImplFactory::createSocketImpl () [pure virtual]

Creates a new SokcetImpl instance and returns it, the caller then owns the instance and must delete it when finished with the **SocketImpl** (p. 2779).

Returns:

new **SocketImpl** (p. 2779) instance that is owned by the caller.

The documentation for this class was generated from the following file:

- src/main/decaf/net/**SocketImplFactory.h**

6.573 decaf::net::SocketOptions Class Reference

`#include <src/main/decaf/net/SocketOptions.h>`Inheritance diagram for decaf::net::SocketOptions:

Public Member Functions

- virtual ~**SocketOptions** ()

Static Public Attributes

- static const int **SOCKET_OPTION_TCP_NODELAY**

  Disable Nagle's algorithm for this connection.

- static const int **SOCKET_OPTION_BINDADDR**

  Fetch the local address binding of a socket (this option cannot be "set" only "gotten", since sockets are bound at creation time, and so the locally bound address cannot be changed).

- static const int **SOCKET_OPTION_REUSEADDR**

  Sets SO_REUSEADDR for a socket.

- static const int **SOCKET_OPTION_BROADCAST**

  Sets SO_BROADCAST for a socket.

- static const int **SOCKET_OPTION_IP_MULTICAST_IF**

  Set which outgoing interface on which to send multicast packets.

- static const int **SOCKET_OPTION_IP_MULTICAST_IF2**

  Same as above.

- static const int **SOCKET_OPTION_IP_MULTICAST_LOOP**

  This option enables or disables local loopback of multicast datagrams.

- static const int **SOCKET_OPTION_IP_TOS**

  This option sets the type-of-service or traffic class field in the IP header for a TCP or UDP socket.

- static const int **SOCKET_OPTION_LINGER**

  Specify a linger-on-close timeout.

- static const int **SOCKET_OPTION_TIMEOUT**

  *Set a timeout on blocking **Socket** (p. 2755) operations.*

- static const int **SOCKET_OPTION_SNDBUF**

  Set a hint the size of the underlying buffers used by the platform for outgoing network I/O.

- static const int **SOCKET_OPTION_RCVBUF**

Set a hint the size of the underlying buffers used by the platform for incoming network I/O.

- static const int **SOCKET_OPTION_KEEPALIVE**

  When the keepalive option is set for a TCP socket and no data has been exchanged across the socket in either direction for 2 hours (NOTE: the actual value is implementation dependent), TCP automatically sends a keepalive probe to the peer.

- static const int **SOCKET_OPTION_OOBINLINE**

  When the OOBINLINE option is set, any TCP urgent data received on the socket will be received through the socket input stream.

6.573.1 Detailed Description

Since:

1.0

6.573.2 Constructor & Destructor Documentation

6.573.2.1 virtual decaf::net::SocketOptions::~SocketOptions () [virtual]

6.573.3 Field Documentation

6.573.3.1 const int decaf::net::SocketOptions::SOCKET_OPTION_BINDADDR [static]

Fetch the local address binding of a socket (this option cannot be "set" only "gotten", since sockets are bound at creation time, and so the locally bound address cannot be changed). The default local address of a socket is INADDR_ANY, meaning any local address on a multi-homed host. A multi-homed host can use this option to accept connections to only one of its addresses (in the case of a **ServerSocket** (p. 2644) or DatagramSocket), or to specify its return address to the peer (for a **Socket** (p. 2755) or DatagramSocket). The parameter of this option is an **InetAddress** (p. 1666).

6.573.3.2 const int decaf::net::SocketOptions::SOCKET_OPTION_BROADCAST [static]

Sets SO_BROADCAST for a socket. This option enables and disables the ability of the process to send broadcast messages. It is supported for only datagram sockets and only on networks that support the concept of a broadcast message (e.g. Ethernet, token ring, etc.), and it is set by default for DatagramSockets.

6.573.3.3 const int decaf::net::SocketOptions::SOCKET_OPTION_IP_-MULTICAST_IF [static]

Set which outgoing interface on which to send multicast packets. Useful on hosts with multiple network interfaces, where applications want to use other than the system default. Takes/returns an **InetAddress** (p. 1666).

Valid for Multicast: DatagramSocketImpl.

6.573.3.4 const int decaf::net::SocketOptions::SOCKET_OPTION_IP_-MULTICAST_IF2 [static]

Same as above. This option is introduced so that the behaviour with IP_MULTICAST_IF will be kept the same as before, while this new option can support setting outgoing interfaces with either IPv4 and IPv6 addresses.

6.573.3.5 const int decaf::net::SocketOptions::SOCKET_OPTION_IP_-MULTICAST_LOOP [static]

This option enables or disables local loopback of multicast datagrams. This option is enabled by default for Multicast Sockets.

6.573.3.6 const int decaf::net::SocketOptions::SOCKET_OPTION_IP_TOS [static]

This option sets the type-of-service or traffic class field in the IP header for a TCP or UDP socket.

6.573.3.7 const int decaf::net::SocketOptions::SOCKET_OPTION_KEEPALIVE [static]

When the keepalive option is set for a TCP socket and no data has been exchanged across the socket in either direction for 2 hours (NOTE: the actual value is implementation dependent), TCP automatically sends a keepalive probe to the peer. This probe is a TCP segment to which the peer must respond. One of three responses is expected: 1. The peer responds with the expected ACK. The application is not notified (since everything is OK). TCP will send another probe following another 2 hours of inactivity. 2. The peer responds with an RST, which tells the local TCP that the peer host has crashed and rebooted. The socket is closed. 3. There is no response from the peer. The socket is closed. The purpose of this option is to detect if the peer host crashes.

Valid only for TCP socket: **SocketImpl** (p. 2779)

6.573.3.8 const int decaf::net::SocketOptions::SOCKET_OPTION_LINGER [static]

Specify a linger-on-close timeout. This option disables/enables immediate return from a close() of a TCP **Socket** (p. 2755). Enabling this option with a non-zero Integer timeout means that a close() will block pending the transmission and acknowledgment of all data written to the peer, at which point the socket is closed gracefully. Upon reaching the linger timeout, the socket is closed forcefully, with a TCP RST. Enabling the option with a timeout of zero does a forceful close immediately. If the specified timeout value exceeds 65,535 it will be reduced to 65,535.

Valid only for TCP: **SocketImpl** (p. 2779)

6.573.3.9 const int decaf::net::SocketOptions::SOCKET_OPTION_OOBINLINE [static]

When the OOBINLINE option is set, any TCP urgent data received on the socket will be received through the socket input stream. When the option is disabled (which is the default) urgent data is silently discarded.

6.573.3.10 const int decaf::net::SocketOptions::SOCKET_OPTION_RCVBUF [static]

Set a hint the size of the underlying buffers used by the platform for incoming network I/O. When used in set, this is a suggestion to the kernel from the application about the size of buffers to use for the data to be received over the socket. When used in get, this must return the size of the buffer actually used by the platform when receiving in data on this socket. Valid for all sockets: **SocketImpl** (p. 2779), DatagramSocketImpl.

6.573.3.11 const int decaf::net::SocketOptions::SOCKET_OPTION_REUSEADDR [static]

Sets SO_REUSEADDR for a socket. This is used only for MulticastSockets in **decaf** (p. 95), and it is set by default for MulticastSockets.

6.573.3.12 const int decaf::net::SocketOptions::SOCKET_OPTION_SNDBUF [static]

Set a hint the size of the underlying buffers used by the platform for outgoing network I/O. When used in set, this is a suggestion to the kernel from the application about the size of buffers to use for the data to be sent over the socket. When used in get, this must return the size of the buffer actually used by the platform when sending out data on this socket. Valid for all sockets: **SocketImpl** (p. 2779), DatagramSocketImpl

6.573.3.13 const int decaf::net::SocketOptions::SOCKET_OPTION_TCP_NODELAY [static]

Disable Nagle's algorithm for this connection. Written data to the network is not buffered pending acknowledgment of previously written data. Valid for TCP sockets.

6.573.3.14 const int decaf::net::SocketOptions::SOCKET_OPTION_TIMEOUT [static]

Set a timeout on blocking **Socket** (p. 2755) operations. The option must be set prior to entering a blocking operation to take effect.

The documentation for this class was generated from the following file:

- src/main/decaf/net/**SocketOptions.h**

6.574 decaf::net::SocketTimeoutException Class Reference

`#include <src/main/decaf/net/SocketTimeoutException.h>`Inheritance diagram for decaf::net::SocketTimeoutException:

Public Member Functions

- **SocketTimeoutException** ()

  Default Constructor.

- **SocketTimeoutException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **SocketTimeoutException** (const **SocketTimeoutException** &ex)

  Copy Constructor.

- **SocketTimeoutException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **SocketTimeoutException** (const std::exception *cause)

  Constructor.

- **SocketTimeoutException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **SocketTimeoutException** * **clone** () const

  Clones this exception.

- virtual ~**SocketTimeoutException** () throw ()

6.574.1 Constructor & Destructor Documentation

6.574.1.1 decaf::net::SocketTimeoutException::SocketTimeoutException ()

Default Constructor.

6.574.1.2 decaf::net::SocketTimeoutException::SocketTimeoutException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.574.1.3 decaf::net::SocketTimeoutException::SocketTimeoutException (const SocketTimeoutException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.574.1.4 decaf::net::SocketTimeoutException::SocketTimeoutException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.574.1.5 decaf::net::SocketTimeoutException::SocketTimeoutException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.574.1.6 decaf::net::SocketTimeoutException::SocketTimeoutException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.574.1.7 virtual decaf::net::SocketTimeoutException::~SocketTimeoutException () throw () [virtual]

6.574.2 Member Function Documentation

6.574.2.1 virtual SocketTimeoutException* decaf::net::SocketTimeoutException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::io::InterruptedIOException** (p. 1758).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**SocketTimeoutException.h**

6.575 decaf::net::ssl::SSLContext Class Reference

Represents on implementation of the Secure **Socket** (p. 2755) Layer for streaming based sockets.

`#include <src/main/decaf/net/ssl/SSLContext.h>`

Public Member Functions

- **SSLContext** (**SSLContextSpi** *contextImpl)
- virtual ~**SSLContext** ()
- **SocketFactory** * **getSocketFactory** ()

  *Returns an **SocketFactory** (p. 2774) instance for use with this Context, the **SocketFactory** (p. 2774) is owned by the Context and should not be deleted by the caller.*

- **ServerSocketFactory** * **getServerSocketFactory** ()

  *Returns an **ServerSocketFactory** (p. 2653) instance for use with this Context, the **ServerSocketFactory** (p. 2653) is owned by the Context and should not be deleted by the caller.*

- **SSLParameters** * **getDefaultSSLParameters** ()
- **SSLParameters** * **getSupportedSSLParameters** ()

Static Public Member Functions

- static **SSLContext** * **getDefault** ()

  *Gets the Default **SSLContext** (p. 2795).*

- static void **setDefault** (**SSLContext** *context)

  *Sets the default **SSLContext** (p. 2795) to be returned from future calls to getDefault.*

6.575.1 Detailed Description

Represents on implementation of the Secure **Socket** (p. 2755) Layer for streaming based sockets. This class servers a a source of factories to be used to create new SSL **Socket** (p. 2755) instances.

Since:

1.0

6.575.2 Constructor & Destructor Documentation

6.575.2.1 decaf::net::ssl::SSLContext::SSLContext (SSLContextSpi * *contextImpl*)

6.575.2.2 virtual decaf::net::ssl::SSLContext::~SSLContext () [virtual]

6.575.3 Member Function Documentation

6.575.3.1 static SSLContext* decaf::net::ssl::SSLContext::getDefault () [static]

Gets the Default **SSLContext** (p. 2795). The default instance of the **SSLContext** (p. 2795) should be immediately usable without any need for the client to initialize this context.

Returns:

a pointer to the Default **SSLContext** (p. 2795) instance.

6.575.3.2 SSLParameters* decaf::net::ssl::SSLContext::getDefaultSSLParameters ()

Returns:

a new instance of an **SSLParameters** (p. 2801) object containing the default set of settings for this **SSLContext** (p. 2795).

Exceptions:

UnsupportedOperationException if the parameters cannot be retrieved.

6.575.3.3 ServerSocketFactory* decaf::net::ssl::SSLContext::getServerSocketFactory ()

Returns an **ServerSocketFactory** (p. 2653) instance for use with this Context, the **ServerSocketFactory** (p. 2653) is owned by the Context and should not be deleted by the caller.

Returns:

a pointer to this SSLContext's **ServerSocketFactory** (p. 2653) for creating **SSLServerSocket** (p. 2804) objects.

Exceptions:

IllegalStateException if the **SSLContextSpi** (p. 2798) requires initialization but it has not yet been initialized.

6.575.3.4 SocketFactory* decaf::net::ssl::SSLContext::getSocketFactory ()

Returns an **SocketFactory** (p. 2774) instance for use with this Context, the **SocketFactory** (p. 2774) is owned by the Context and should not be deleted by the caller.

Returns:

a pointer to this SSLContext's **SocketFactory** (p. 2774) for creating **SSLSocket** (p. 2813) objects.

Exceptions:

IllegalStateException if the **SSLContextSpi** (p. 2798) requires initialization but it has not yet been initialized.

6.575.3.5 SSLParameters* decaf::net::ssl::SSLContext::getSupportedSSLParameters ()

Returns:

a new instance of an **SSLParameters** (p. 2801) object containing the complete set of settings for this **SSLContext** (p. 2795).

Exceptions:

UnsupportedOperationException if the parameters cannot be retrieved.

6.575.3.6 static void decaf::net::ssl::SSLContext::setDefault (SSLContext * *context*) [static]

Sets the default **SSLContext** (p. 2795) to be returned from future calls to getDefault. The set **SSLContext** (p. 2795) must be fully initialized and usable. The caller is responsible for deleting this object before the Library shutdown methods are called.

Exceptions:

NullPointerException if the context passed is NULL.

The documentation for this class was generated from the following file:

- src/main/decaf/net/ssl/**SSLContext.h**

6.576 decaf::net::ssl::SSLContextSpi Class Reference

Defines the interface that should be provided by an **SSLContext** (p. 2795) provider.

`#include <src/main/decaf/net/ssl/SSLContextSpi.h>`Inheritance diagram for decaf::net::ssl::SSLContextSpi:

Public Member Functions

- virtual ~**SSLContextSpi** ()
- virtual void **providerInit** (**security::SecureRandom** *random)=0

  Perform the initialization of this Context.

- virtual **SSLParameters** * **providerGetDefaultSSLParameters** ()

  *Creates a returns a new **SSLParameters** (p. 2801) instance that contains the default settings for this Providers **SSLContext** (p. 2795).*

- virtual **SSLParameters** * **providerGetSupportedSSLParameters** ()

  *Creates and returns a new **SSLParameters** (p. 2801) instance that contains the full set of supported parameters for this SSL Context.*

- virtual **SocketFactory** * **providerGetSocketFactory** ()=0

  *Returns a **SocketFactory** (p. 2774) instance that can be used to create new **SSLSocket** (p. 2813) objects.*

- virtual **ServerSocketFactory** * **providerGetServerSocketFactory** ()=0

  *Returns a **ServerSocketFactory** (p. 2653) instance that can be used to create new **SSLServerSocket** (p. 2804) objects.*

6.576.1 Detailed Description

Defines the interface that should be provided by an **SSLContext** (p. 2795) provider.

Since:

1.0

6.576.2 Constructor & Destructor Documentation

6.576.2.1 virtual decaf::net::ssl::SSLContextSpi::~SSLContextSpi () [virtual]

6.576.3 Member Function Documentation

6.576.3.1 virtual SSLParameters* decaf::net::ssl::SSLContextSpi::providerGetDefaultSSLParameters () [virtual]

Creates a returns a new **SSLParameters** (p. 2801) instance that contains the default settings for this Providers **SSLContext** (p. 2795). The returned **SSLParameters** (p. 2801) instance is

requires to have non-empty values in its ciphersuites and protocols.

Returns:

new **SSLParameters** (p. 2801) instance with the **SSLContext** (p. 2795) defaults.

Exceptions:

UnsupportedOperationException if the defaults cannot be obtained.

6.576.3.2 virtual ServerSocketFactory* decaf::net::ssl::SSLContextSpi::providerGetServerSocketFactory () [pure virtual]

Returns a **ServerSocketFactory** (p. 2653) instance that can be used to create new **SSLServerSocket** (p. 2804) objects. The **ServerSocketFactory** (p. 2653) is owned by the Service Provider and should not be destroyed by the caller.

Returns:

SocketFactory (p. 2774) instance that can be used to create new SSLServerSockets.

Exceptions:

IllegalStateException if the **SSLContextSpi** (p. 2798) object requires initialization but has not been initialized yet.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLContextSpi** (p. 2265).

6.576.3.3 virtual SocketFactory* decaf::net::ssl::SSLContextSpi::providerGetSocketFactory () [pure virtual]

Returns a **SocketFactory** (p. 2774) instance that can be used to create new **SSLSocket** (p. 2813) objects. The **SocketFactory** (p. 2774) is owned by the Service Provider and should not be destroyed by the caller.

Returns:

SocketFactory (p. 2774) instance that can be used to create new SSLSockets.

Exceptions:

IllegalStateException if the **SSLContextSpi** (p. 2798) object requires initialization but has not been initialized yet.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLContextSpi** (p. 2265).

6.576.3.4 virtual SSLParameters* decaf::net::ssl::SSLContextSpi::providerGetSupportedSSLParameters () [virtual]

Creates and returns a new **SSLParameters** (p. 2801) instance that contains the full set of supported parameters for this SSL Context. The returned **SSLParameters** (p. 2801) instance is requires to have non-empty values in its ciphersuites and protocols.

Returns:

a new **SSLParameters** (p. 2801) instance with the full set of settings that are supported.

Exceptions:

UnsupportedOperationException if the supported parameters cannot be obtained.

6.576.3.5 virtual void decaf::net::ssl::SSLContextSpi::providerInit (security::SecureRandom * *random*) [pure virtual]

Perform the initialization of this Context.

Parameters:

random Pointer to an instance of a secure random number generator.

Exceptions:

NullPointerException if the SecureRandom instance is NULL.

KeyManagementException if an error occurs while initializing the context.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLContextSpi** (p. 2266).

The documentation for this class was generated from the following file:

- src/main/decaf/net/ssl/**SSLContextSpi.h**

6.577 decaf::net::ssl::SSLParameters Class Reference

`#include <src/main/decaf/net/ssl/SSLParameters.h>`

Public Member Functions

- **SSLParameters** ()

  *Creates a new **SSLParameters** (p. 2801) instance with empty vectors for the protocols and the cipherSuites, the wantClientAuth and needClientAuth flags are set to false.*

- **SSLParameters** (const std::vector< std::string > &cipherSuites)

  *Creates a new **SSLParameters** (p. 2801) instance with the given cipherSuites value, the protocols vector is empty and the wantClientAuth and needClientAuth flags are set to false.*

- **SSLParameters** (const std::vector< std::string > &cipherSuites, const std::vector< std::string > &protocols)

  *Creates a new **SSLParameters** (p. 2801) instance with the given cipherSuites value and protocols value, the wantClientAuth and needClientAuth flags are set to false.*

- virtual ~**SSLParameters** ()
- std::vector< std::string > **getCipherSuites** () const
- void **setCipherSuites** (const std::vector< std::string > &cipherSuites)

  Sets the vector of ciphersuites.

- std::vector< std::string > **getProtocols** () const
- void **setProtocols** (const std::vector< std::string > &protocols)

  Sets the vector of protocols.

- bool **getWantClientAuth** () const
- void **setWantClientAuth** (bool wantClientAuth)

  Sets whether client authentication should be requested.

- bool **getNeedClientAuth** () const
- void **setNeedClientAuth** (bool needClientAuth)

  Sets whether client authentication should be required.

6.577.1 Constructor & Destructor Documentation

6.577.1.1 decaf::net::ssl::SSLParameters::SSLParameters ()

Creates a new **SSLParameters** (p. 2801) instance with empty vectors for the protocols and the cipherSuites, the wantClientAuth and needClientAuth flags are set to false.

6.577.1.2 decaf::net::ssl::SSLParameters::SSLParameters (const std::vector< std::string > & *cipherSuites*)

Creates a new **SSLParameters** (p. 2801) instance with the given cipherSuites value, the protocols vector is empty and the wantClientAuth and needClientAuth flags are set to false.

Parameters:

cipherSuites The vector of cipherSuites for this **SSLParameters** (p. 2801) instance (can be empty).

6.577.1.3 decaf::net::ssl::SSLParameters::SSLParameters (const std::vector< std::string > & *cipherSuites*, const std::vector< std::string > & *protocols*)

Creates a new **SSLParameters** (p. 2801) instance with the given cipherSuites value and protocols value, the wantClientAuth and needClientAuth flags are set to false.

Parameters:

cipherSuites The vector of cipherSuites for this **SSLParameters** (p. 2801) instance (can be empty).

protocols The vector of protocols for this **SSLParameters** (p. 2801) instance (can be empty).

6.577.1.4 virtual decaf::net::ssl::SSLParameters::~SSLParameters () [virtual]

6.577.2 Member Function Documentation

6.577.2.1 std::vector<std::string> decaf::net::ssl::SSLParameters::getCipherSuites () const [inline]

Returns:

a copy of the vector of ciphersuites or an empty vector if none have been set.

6.577.2.2 bool decaf::net::ssl::SSLParameters::getNeedClientAuth () const [inline]

Returns:

whether client authentication should be required.

6.577.2.3 std::vector<std::string> decaf::net::ssl::SSLParameters::getProtocols () const [inline]

Returns:

a copy of the vector of protocols or an empty vector if none have been set.

6.577.2.4 bool decaf::net::ssl::SSLParameters::getWantClientAuth () const [inline]

Returns:

whether client authentication should be requested.

6.577.2.5 void decaf::net::ssl::SSLParameters::setCipherSuites (const std::vector< std::string > & *cipherSuites*) [inline]

Sets the vector of ciphersuites.

Parameters:

cipherSuites The vector of cipherSuites (can be an empty vector).

6.577.2.6 void decaf::net::ssl::SSLParameters::setNeedClientAuth (bool *needClientAuth*) [inline]

Sets whether client authentication should be required. Calling this method clears the wantClientAuth flag.

Parameters:

needClientAuth whether client authentication should be required.

6.577.2.7 void decaf::net::ssl::SSLParameters::setProtocols (const std::vector< std::string > & *protocols*) [inline]

Sets the vector of protocols.

Parameters:

protocols the vector of protocols (or an empty vector)

6.577.2.8 void decaf::net::ssl::SSLParameters::setWantClientAuth (bool *wantClientAuth*) [inline]

Sets whether client authentication should be requested. Calling this method clears the needClientAuth flag.

Parameters:

whether client authentication should be requested.

The documentation for this class was generated from the following file:

- src/main/decaf/net/ssl/**SSLParameters.h**

6.578 decaf::net::ssl::SSLServerSocket Class Reference

Represents a server socket that is used to accept connections from clients using the Secure Sockets protocol or the Top Level Security protocol.

`#include <src/main/decaf/net/ssl/SSLServerSocket.h>`Inheritance diagram for decaf::net::ssl::SSLServerSocket:

Public Member Functions

- virtual ~**SSLServerSocket** ()
- virtual std::vector< std::string > **getSupportedCipherSuites** () const =0

  *Gets a vector containing the names of all the cipher suites that are supported by this **SSLServerSocket** (p. 2804).*

- virtual std::vector< std::string > **getSupportedProtocols** () const =0

  *Gets a vector containing the names of all the protocols that could be enabled for this **SSLServerSocket** (p. 2804) instance.*

- virtual std::vector< std::string > **getEnabledCipherSuites** () const =0

  *Returns a vector containing the names of all the currently enabled Cipher Suites for this **SSLServerSocket** (p. 2804).*

- virtual void **setEnabledCipherSuites** (const std::vector< std::string > &suites)=0

  *Sets the Cipher Suites that are to be enabled on the **SSLServerSocket** (p. 2804) connection.*

- virtual std::vector< std::string > **getEnabledProtocols** () const =0

  *Returns a vector containing the names of all the currently enabled Protocols for this **SSLServerSocket** (p. 2804).*

- virtual void **setEnabledProtocols** (const std::vector< std::string > &protocols)=0

  *Sets the Protocols that are to be enabled on the **SSLServerSocket** (p. 2804) connection.*

- virtual bool **getWantClientAuth** () const =0
- virtual void **setWantClientAuth** (bool value)=0

  *Sets whether or not this **Socket** (p. 2755) will request Client Authentication.*

- virtual bool **getNeedClientAuth** () const =0
- virtual void **setNeedClientAuth** (bool value)=0

  *Sets whether or not this **Socket** (p. 2755) will require Client Authentication.*

Protected Member Functions

- **SSLServerSocket** ()

  Creates a non-bound server socket.

- **SSLServerSocket** (int port)

*Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen.*

- **SSLServerSocket** (int port, int backlog)

  *Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen.*

- **SSLServerSocket** (int port, int backlog, const **decaf::net::InetAddress** *address)

  *Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen.*

6.578.1 Detailed Description

Represents a server socket that is used to accept connections from clients using the Secure Sockets protocol or the Top Level Security protocol. The main function of this class is to create **SSLSocket** (p. 2813) objects by accepting connections from client sockets over SSL.

Since:

1.0

6.578.2 Constructor & Destructor Documentation

6.578.2.1 decaf::net::ssl::SSLServerSocket::SSLServerSocket () [protected]

Creates a non-bound server socket.

6.578.2.2 decaf::net::ssl::SSLServerSocket::SSLServerSocket (int *port*) [protected]

Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen. When this constructor is called the size of the backlog queue is set at 50, connections that arrive after the backlog has been reached are refused.

If a **SocketImplFactory** (p. 2787) is registered then the createSocketImpl method on the factory will be called otherwise a default **SocketImpl** (p. 2779) is created.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

Exceptions:

IOException if there is an I/O error while performing this operation.

IllegalArgumentException if the port value is negative or greater than 65535.

6.578.2.3 decaf::net::ssl::SSLServerSocket::SSLServerSocket (int *port*, int *backlog*) [protected]

Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen. When this constructor is called the size of the backlog queue is set at

backlog, connections that arrive after the backlog has been reached are refused. If backlog is zero or negative then the default backlog value of 50 is used.

If a **SocketImplFactory** (p. 2787) is registered then the createSocketImpl method on the factory will be called otherwise a default **SocketImpl** (p. 2779) is created.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The the number of incoming connection attempts to queue before connections are refused.

Exceptions:

IOException if there is an I/O error while performing this operation.

IllegalArgumentException if the port value is negative or greater than 65535.

6.578.2.4 decaf::net::ssl::SSLServerSocket::SSLServerSocket (int *port*, int *backlog*, const decaf::net::InetAddress * *address*) [protected]

Creates a new **ServerSocket** (p. 2644) bound to the specified port, if the value of port is 0, then any free port is chosen. If the value of the ifAddress is empty or NULL then the ANY address is used.

When this constructor is called the size of the backlog queue is set at backlog, connections that arrive after the backlog has been reached are refused. If backlog is zero or negative then the default backlog value of 50 is used.

If a **SocketImplFactory** (p. 2787) is registered then the createSocketImpl method on the factory will be called otherwise a default **SocketImpl** (p. 2779) is created.

Parameters:

port The port to bind the **ServerSocket** (p. 2644) to.

backlog The the number of incoming connection attempts to queue before connections are refused.

ifAddress The IP Address to bind to on the local machine.

Exceptions:

IOException if there is an I/O error while performing this operation.

IllegalArgumentException if the port value is negative or greater than 65535.

6.578.2.5 virtual decaf::net::ssl::SSLServerSocket::~SSLServerSocket () [virtual]

6.578.3 Member Function Documentation

6.578.3.1 virtual std::vector<std::string> decaf::net::ssl::SSLServerSocket::getEnabledCipherSuites () const [pure virtual]

Returns a vector containing the names of all the currently enabled Cipher Suites for this **SSLServerSocket** (p. 2804).

Returns:

vector of the names of all enabled Cipher Suites.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2271).

6.578.3.2 virtual std::vector<std::string> decaf::net::ssl::SSLServerSocket::getEnabledProtocols () const [pure virtual]

Returns a vector containing the names of all the currently enabled Protocols for this **SSLServerSocket** (p. 2804).

Returns:

vector of the names of all enabled Protocols.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2272).

6.578.3.3 virtual bool decaf::net::ssl::SSLServerSocket::getNeedClientAuth () const [pure virtual]

Returns:

true if the **Socket** (p. 2755) requires client Authentication.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2272).

6.578.3.4 virtual std::vector<std::string> decaf::net::ssl::SSLServerSocket::getSupportedCipherSuites () const [pure virtual]

Gets a vector containing the names of all the cipher suites that are supported by this **SSLServerSocket** (p. 2804). Normally not all of these cipher suites will be enabled on the **Socket** (p. 2755).

Returns:

a vector containing the names of all the supported cipher suites.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2272).

6.578.3.5 virtual std::vector<std::string> decaf::net::ssl::SSLServerSocket::getSupportedProtocols () const [pure virtual]

Gets a vector containing the names of all the protocols that could be enabled for this **SSLServerSocket** (p. 2804) instance.

Returns:

a vector containing the names of all the supported protocols.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2272).

6.578.3.6 virtual bool decaf::net::ssl::SSLServerSocket::getWantClientAuth () const [pure virtual]

Returns:

true if the **Socket** (p. 2755) request client Authentication.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2273).

6.578.3.7 virtual void decaf::net::ssl::SSLServerSocket::setEnabledCipherSuites (const std::vector< std::string > & *suites*) [pure virtual]

Sets the Cipher Suites that are to be enabled on the **SSLServerSocket** (p. 2804) connection. Each of the named Cipher Suites must appear in the list of supported cipher suites for this connection or an exception will be thrown.

Parameters:

suites An Vector of names for all the Cipher Suites that are to be enabled.

Exceptions:

IllegalArgumentException if the vector is empty or one of the names is invalid.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2273).

6.578.3.8 virtual void decaf::net::ssl::SSLServerSocket::setEnabledProtocols (const std::vector< std::string > & *protocols*) [pure virtual]

Sets the Protocols that are to be enabled on the **SSLServerSocket** (p. 2804) connection. Each of the named Protocols must appear in the list of supported protocols suites for this connection or an exception will be thrown.

Parameters:

protocols An Vector of names for all the Protocols that are to be enabled.

Exceptions:

IllegalArgumentException if the vector is empty or one of the names is invalid.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2273).

6.578.3.9 virtual void decaf::net::ssl::SSLServerSocket::setNeedClientAuth (bool *value*) [pure virtual]

Sets whether or not this **Socket** (p. 2755) will require Client Authentication. If set to true the **Socket** (p. 2755) (when used in server mode) will require that the client authenticate itself, if the client doesn't send authentication the socket will not allow negotiation to continue.

Parameters:

value Whether the server socket should require client authentication.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2273).

6.578.3.10 virtual void decaf::net::ssl::SSLServerSocket::setWantClientAuth (bool *value*) [pure virtual]

Sets whether or not this **Socket** (p. 2755) will request Client Authentication. If set to true the **Socket** (p. 2755) (when used in server mode) will request that the client authenticate itself, if the client doesn't send authentication the socket will still allow negotiation to continue.

Parameters:

value Whether the server socket should request client authentication.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLServerSocket** (p. 2274).

The documentation for this class was generated from the following file:

- src/main/decaf/net/ssl/**SSLServerSocket.h**

6.579 decaf::net::ssl::SSLServerSocketFactory Class Reference

Factory class interface that provides methods to create SSL Server Sockets.

`#include <src/main/decaf/net/ssl/SSLServerSocketFactory.h>`Inheritance diagram for decaf::net::ssl::SSLServerSocketFactory:

Public Member Functions

- virtual ~**SSLServerSocketFactory** ()
- virtual std::vector< std::string > **getDefaultCipherSuites** ()=0

  Returns the list of cipher suites which are enabled by default.

- virtual std::vector< std::string > **getSupportedCipherSuites** ()=0

  Returns the names of the cipher suites which could be enabled for use on an SSL connection.

Static Public Member Functions

- static **ServerSocketFactory** * **getDefault** ()

  *Returns the current default SSL **ServerSocketFactory** (p. 2653), the factory is returned as a pointer however the caller does not own this pointer and should not delete it.*

Protected Member Functions

- **SSLServerSocketFactory** ()

6.579.1 Detailed Description

Factory class interface that provides methods to create SSL Server Sockets.

Since:

1.0

6.579.2 Constructor & Destructor Documentation

6.579.2.1 decaf::net::ssl::SSLServerSocketFactory::SSLServerSocketFactory () [protected]

6.579.2.2 virtual decaf::net::ssl::SSLServerSocketFactory::~SSLServerSocketFactory () [virtual]

6.579.3 Member Function Documentation

6.579.3.1 static ServerSocketFactory* decaf::net::ssl::SSLServerSocketFactory::getDefault () [static]

Returns the current default SSL **ServerSocketFactory** (p. 2653), the factory is returned as a pointer however the caller does not own this pointer and should not delete it. This method returns **SSLContext::getDefault()** (p. 2795)->getServerSocketFactory(). If that call fails, a non-functional factory is returned.

Returns:

the default SSL **ServerSocketFactory** (p. 2653) pointer.

See also:

decaf::net::ssl::SSLContext::getDefault() (p. 2795)

Reimplemented from **decaf::net::ServerSocketFactory** (p. 2655).

6.579.3.2 virtual std::vector<std::string> decaf::net::ssl::SSLServerSocketFactory::getDefaultCipherSuites () [pure virtual]

Returns the list of cipher suites which are enabled by default. Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

Returns:

an STL vector containing the list of cipher suites enabled by default.

See also:

getSupportedCipherSuites() (p. 2811)

Implemented in **decaf::internal::net::ssl::DefaultSSLServerSocketFactory** (p. 1333), and **decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory** (p. 2278).

6.579.3.3 virtual std::vector<std::string> decaf::net::ssl::SSLServerSocketFactory::getSupportedCipherSuites () [pure virtual]

Returns the names of the cipher suites which could be enabled for use on an SSL connection. Normally, only a subset of these will actually be enabled by default, since this list may include

cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

Returns:

an STL vector containing the list of supported cipher suites.

See also:

getDefaultCipherSuites() (p. 2811)

Implemented in **decaf::internal::net::ssl::DefaultSSLServerSocketFactory** (p. 1334), and **decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory** (p. 2279).

The documentation for this class was generated from the following file:

- src/main/decaf/net/ssl/**SSLServerSocketFactory.h**

6.580 decaf::net::ssl::SSLSocket Class Reference

`#include <src/main/decaf/net/ssl/SSLSocket.h>`Inheritance diagram for decaf::net::ssl::SSLSocket:

Public Member Functions

- **SSLSocket** ()
- **SSLSocket** (const **InetAddress** *address, int port)

  *Creates a new **SSLSocket** (p. 2813) instance and connects it to the given address and port.*

- **SSLSocket** (const **InetAddress** *address, int port, const **InetAddress** *localAddress, int localPort)

  *Creates a new **SSLSocket** (p. 2813) instance and connects it to the given address and port.*

- **SSLSocket** (const std::string &host, int port)

  *Creates a new **SSLSocket** (p. 2813) instance and connects it to the given host and port.*

- **SSLSocket** (const std::string &host, int port, const **InetAddress** *localAddress, int localPort)

  *Creates a new **SSLSocket** (p. 2813) instance and connects it to the given host and port.*

- virtual ~**SSLSocket** ()
- virtual std::vector< std::string > **getSupportedCipherSuites** () const =0

  *Gets a vector containing the names of all the cipher suites that are supported by this **SSLSocket** (p. 2813).*

- virtual std::vector< std::string > **getSupportedProtocols** () const =0

  *Gets a vector containing the names of all the protocols that could be enabled for this **SSLSocket** (p. 2813) instance.*

- virtual std::vector< std::string > **getEnabledCipherSuites** () const =0

  *Returns a vector containing the names of all the currently enabled Cipher Suites for this SSL **Socket** (p. 2755).*

- virtual void **setEnabledCipherSuites** (const std::vector< std::string > &suites)=0

  *Sets the Cipher Suites that are to be enabled on the SSL **Socket** (p. 2755) connection.*

- virtual std::vector< std::string > **getEnabledProtocols** () const =0

  *Returns a vector containing the names of all the currently enabled Protocols for this SSL **Socket** (p. 2755).*

- virtual void **setEnabledProtocols** (const std::vector< std::string > &protocols)=0

  *Sets the Protocols that are to be enabled on the SSL **Socket** (p. 2755) connection.*

- virtual **SSLParameters** **getSSLParameters** () const

  *Returns an **SSLParameters** (p. 2801) object for this **SSLSocket** (p. 2813) instance.*

- virtual void **setSSLParameters** (const **SSLParameters** &value)

  *Sets the **SSLParameters** (p. 2801) for this **SSLSocket** (p. 2813) using the supplied **SSLParameters** (p. 2801) instance.*

- virtual void **startHandshake** ()=0

  Initiates a handshake for this SSL Connection, this can be necessary for several reasons such as using new encryption keys, or starting a new session.

- virtual void **setUseClientMode** (bool value)=0

  Determines the mode that the socket uses when a handshake is initiated, client or server.

- virtual bool **getUseClientMode** () const =0

  *Gets whether this **Socket** (p. 2755) is in Client or Server mode, true indicates that the mode is set to Client.*

- virtual void **setNeedClientAuth** (bool value)=0

  *Sets the **Socket** (p. 2755) to require that a client authenticate itself by sending a valid Certificate that is trusted by this Server mode socket.*

- virtual bool **getNeedClientAuth** () const =0

  Returns if this socket is configured to require client authentication, true means that is has and that clients that failed to authenticate will be rejected.

- virtual void **setWantClientAuth** (bool value)=0

  *Sets the **Socket** (p. 2755) to request that a client authenticate itself by sending a valid Certificate that is trusted by this Server mode socket.*

- virtual bool **getWantClientAuth** () const =0

  Returns if this socket is configured to request client authentication, true means that is has and that clients that failed to authenticate will be rejected but that cleints that do not send a certificate are not considered to have failed authentication.

6.580.1 Detailed Description

Since:

1.0

6.580.2 Constructor & Destructor Documentation

6.580.2.1 decaf::net::ssl::SSLSocket::SSLSocket ()

6.580.2.2 decaf::net::ssl::SSLSocket::SSLSocket (const InetAddress * *address*, int *port*)

Creates a new **SSLSocket** (p. 2813) instance and connects it to the given address and port. If the host parameter is empty then the loop back address is used.

Parameters:

address The address to connect to.

port The port number to connect to [0...65535]

Exceptions:

UnknownHostException *(p. 3138)* if the host cannot be resolved.

IOException if an I/O error occurs while connecting the **Socket** (p. 2755).

NullPointerException if the **InetAddress** (p. 1666) instance in NULL.

IllegalArgumentException if the port if not in range [0...65535]

6.580.2.3 decaf::net::ssl::SSLSocket::SSLSocket (const InetAddress * *address*, int *port*, const InetAddress * *localAddress*, int *localPort*)

Creates a new **SSLSocket** (p. 2813) instance and connects it to the given address and port. The **Socket** (p. 2755) will also bind to the local address and port specified.

Parameters:

address The address to connect to.

port The port number to connect to [0...65535]

localAddress The IP address on the local machine to bind to.

localPort The port on the local machine to bind to.

Exceptions:

UnknownHostException *(p. 3138)* if the host cannot be resolved.

IOException if an I/O error occurs while connecting the **Socket** (p. 2755).

NullPointerException if the **InetAddress** (p. 1666) instance in NULL.

IllegalArgumentException if the port if not in range [0...65535]

6.580.2.4 decaf::net::ssl::SSLSocket::SSLSocket (const std::string & *host*, int *port*)

Creates a new **SSLSocket** (p. 2813) instance and connects it to the given host and port. If the host parameter is empty then the loop back address is used.

Parameters:

host The host name or IP address to connect to, empty string means loopback.

port The port number to connect to [0...65535]

Exceptions:

UnknownHostException *(p. 3138)* if the host cannot be resolved.

IOException if an I/O error occurs while connecting the **Socket** (p. 2755).

IllegalArgumentException if the port if not in range [0...65535]

6.580.2.5 decaf::net::ssl::SSLSocket::SSLSocket (const std::string & *host*, int *port*, const InetAddress * *localAddress*, int *localPort*)

Creates a new **SSLSocket** (p. 2813) instance and connects it to the given host and port. If the host parameter is empty then the loop back address is used.

Parameters:

host The host name or IP address to connect to, empty string means loopback.

port The port number to connect to [0...65535]

localAddress The IP address on the local machine to bind to.

localPort The port on the local machine to bind to.

Exceptions:

UnknownHostException *(p. 3138)* if the host cannot be resolved.

IOException if an I/O error occurs while connecting the **Socket** (p. 2755).

IllegalArgumentException if the port if not in range [0...65535]

6.580.2.6 virtual decaf::net::ssl::SSLSocket::~SSLSocket () [virtual]

6.580.3 Member Function Documentation

6.580.3.1 virtual std::vector<std::string> decaf::net::ssl::SSLSocket::getEnabledCipherSuites () const [pure virtual]

Returns a vector containing the names of all the currently enabled Cipher Suites for this SSL **Socket** (p. 2755).

Returns:

vector of the names of all enabled Cipher Suites.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2285).

6.580.3.2 virtual std::vector<std::string> decaf::net::ssl::SSLSocket::getEnabledProtocols () const [pure virtual]

Returns a vector containing the names of all the currently enabled Protocols for this SSL **Socket** (p. 2755).

Returns:

vector of the names of all enabled Protocols.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2286).

6.580.3.3 virtual bool decaf::net::ssl::SSLSocket::getNeedClientAuth () const [pure virtual]

Returns if this socket is configured to require client authentication, true means that is has and that clients that failed to authenticate will be rejected. This option is only useful when the socket is operating in server mode.

Returns:

true if client authentication is required.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2286).

6.580.3.4 virtual SSLParameters decaf::net::ssl::SSLSocket::getSSLParameters () const [virtual]

Returns an **SSLParameters** (p. 2801) object for this **SSLSocket** (p. 2813) instance. The cipherSuites and protocols vectors in the returned **SSLParameters** (p. 2801) reference will never be empty.

Returns:

an **SSLParameters** (p. 2801) object with the settings in use for the **SSLSocket** (p. 2813).

6.580.3.5 virtual std::vector<std::string> decaf::net::ssl::SSLSocket::getSupportedCipherSuites () const [pure virtual]

Gets a vector containing the names of all the cipher suites that are supported by this **SSLSocket** (p. 2813). Normally not all of these cipher suites will be enabled on the **Socket** (p. 2755).

Returns:

a vector containing the names of all the supported cipher suites.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2287).

6.580.3.6 virtual std::vector<std::string> decaf::net::ssl::SSLSocket::getSupportedProtocols () const [pure virtual]

Gets a vector containing the names of all the protocols that could be enabled for this **SSLSocket** (p. 2813) instance.

Returns:

a vector containing the names of all the supported protocols.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2287).

6.580.3.7 virtual bool decaf::net::ssl::SSLSocket::getUseClientMode () const [pure virtual]

Gets whether this **Socket** (p. 2755) is in Client or Server mode, true indicates that the mode is set to Client.

Returns:

true if the **Socket** (p. 2755) is in Client mode, false otherwise.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2287).

6.580.3.8 virtual bool decaf::net::ssl::SSLSocket::getWantClientAuth () const [pure virtual]

Returns if this socket is configured to request client authentication, true means that is has and that clients that failed to authenticate will be rejected but that cleints that do not send a certificate are not considered to have failed authentication. This option is only useful when the socket is operating in server mode.

Returns:

true if client authentication is required.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2288).

6.580.3.9 virtual void decaf::net::ssl::SSLSocket::setEnabledCipherSuites (const std::vector< std::string > & *suites*) [pure virtual]

Sets the Cipher Suites that are to be enabled on the SSL **Socket** (p. 2755) connection. Each of the named Cipher Suites must appear in the list of supported cipher suites for this connection or an exception will be thrown.

Parameters:

suites An Vector of names for all the Cipher Suites that are to be enabled.

Exceptions:

IllegalArgumentException if the vector is empty or one of the names is invalid.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2289).

6.580.3.10 virtual void decaf::net::ssl::SSLSocket::setEnabledProtocols (const std::vector< std::string > & *protocols*) [pure virtual]

Sets the Protocols that are to be enabled on the SSL **Socket** (p. 2755) connection. Each of the named Protocols must appear in the list of supported protocols suites for this connection or an exception will be thrown.

Parameters:

protocols An Vector of names for all the Protocols that are to be enabled.

Exceptions:

IllegalArgumentException if the vector is empty or one of the names is invalid.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2289).

6.580.3.11 virtual void decaf::net::ssl::SSLSocket::setNeedClientAuth (bool *value*) [pure virtual]

Sets the **Socket** (p. 2755) to require that a client authenticate itself by sending a valid Certificate that is trusted by this Server mode socket. This option only applies to sockets in the Server mode.

If the option is enabled an the client does not provide a certificate then the handshake is considered failed and the connection is refused. Calling this method resets any previous value for this option as well as clears any value set in the setWantClientAuth method.

Parameters:

value The value indicating if a client is required to authenticate itself or not.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2289).

6.580.3.12 virtual void decaf::net::ssl::SSLSocket::setSSLParameters (const SSLParameters & *value*) [virtual]

Sets the **SSLParameters** (p. 2801) for this **SSLSocket** (p. 2813) using the supplied **SSLParameters** (p. 2801) instance. If the cipherSutes vector in the **SSLParameters** (p. 2801) instance is not empty them the setEnabledCipherSuites method is called with that vector, if the protocols vector in the **SSLParameters** (p. 2801) instance is not empty then the setEnabledProtocols method is called with that vector. If the needClientAuth value or the wantClientAuth value is true then the setNeedClientAuth and setWantClientAuth methods are called respectively with a value of true, otherwise the setWantClientAuth method is called with a value of false.

Parameters:

value The **SSLParameters** (p. 2801) instance that is used to update this SSLSocket's settings.

Exceptions:

IllegalArgumentException if an error occurs while calling setEnabledCipherSuites or setEnabledProtocols.

6.580.3.13 virtual void decaf::net::ssl::SSLSocket::setUseClientMode (bool *value*) [pure virtual]

Determines the mode that the socket uses when a handshake is initiated, client or server. This method must be called prior to any handshake attempts on this **Socket** (p. 2755), once a handshake has be initiated this socket remains the the set mode; client or server, for the life of this object.

Parameters:

value The mode setting, true for client or false for server.

Exceptions:

IllegalArguementException if the handshake process has begun and mode is lcoked.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2290).

6.580.3.14 virtual void decaf::net::ssl::SSLSocket::setWantClientAuth (bool *value*) [pure virtual]

Sets the **Socket** (p. 2755) to request that a client authenticate itself by sending a valid Certificate that is trusted by this Server mode socket. This option only applies to sockets in the Server mode.

If the option is enabled an the client does not provide a certificate then the handshake is considered to have succeeded, if it does send a certificate and that certificate is invalid the the handshake will fail. Calling this method resets any previous value for this option as well as clears any value set in the setNeedClientAuth method.

Parameters:

value The value indicating if a client is requested to authenticate itself or not.

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2290).

6.580.3.15 virtual void decaf::net::ssl::SSLSocket::startHandshake () [pure virtual]

Initiates a handshake for this SSL Connection, this can be necessary for several reasons such as using new encryption keys, or starting a new session. When called for the first time after the socket connects this method blocks until the handshake is completed. The provider is not require to support multiple handshakes and can throw an IOException to indicate an error.

Exceptions:

IOException if an I/O error occurs while performing the Handshake

Implemented in **decaf::internal::net::ssl::openssl::OpenSSLSocket** (p. 2291).

The documentation for this class was generated from the following file:

- src/main/decaf/net/ssl/**SSLSocket.h**

6.581 decaf::net::ssl::SSLSocketFactory Class Reference

Factory class interface for a **SocketFactory** (p. 2774) that can create **SSLSocket** (p. 2813) objects.

`#include <src/main/decaf/net/ssl/SSLSocketFactory.h>`Inheritance diagram for decaf::net::ssl::SSLSocketFactory:

Public Member Functions

- virtual ~**SSLSocketFactory** ()
- virtual std::vector< std::string > **getDefaultCipherSuites** ()=0

  Returns the list of cipher suites which are enabled by default.

- virtual std::vector< std::string > **getSupportedCipherSuites** ()=0

  Returns the names of the cipher suites which could be enabled for use on an SSL connection.

- virtual **Socket** * **createSocket** (**Socket** *socket, std::string host, int port, bool autoClose)=0

  Returns a socket layered over an existing socket connected to the named host, at the given port.

Static Public Member Functions

- static **SocketFactory** * **getDefault** ()

  *Returns the current default SSL **SocketFactory** (p. 2774), the factory is returned as a pointer however the caller does not own this pointer and should not delete it.*

Protected Member Functions

- **SSLSocketFactory** ()

6.581.1 Detailed Description

Factory class interface for a **SocketFactory** (p. 2774) that can create **SSLSocket** (p. 2813) objects.

Since:

1.0

6.581.2 Constructor & Destructor Documentation

6.581.2.1 decaf::net::ssl::SSLSocketFactory::SSLSocketFactory () [protected]

6.581.2.2 virtual decaf::net::ssl::SSLSocketFactory::~SSLSocketFactory () [virtual]

6.581.3 Member Function Documentation

6.581.3.1 virtual Socket* decaf::net::ssl::SSLSocketFactory::createSocket (Socket * *socket*, std::string *host*, int *port*, bool *autoClose*) [pure virtual]

Returns a socket layered over an existing socket connected to the named host, at the given port. This constructor can be used when tunneling SSL through a proxy or when negotiating the use of SSL over an existing socket. The host and port refer to the logical peer destination. This socket is configured using the socket options established for this factory.

Parameters:

socket The existing socket to layer over.

host The server host the original **Socket** (p. 2755) is connected to.

port The server port the original **Socket** (p. 2755) is connected to.

autoClose Should the layered over **Socket** (p. 2755) be closed when the topmost socket is closed.

Returns:

a new **Socket** (p. 2755) instance that wraps the given **Socket** (p. 2755).

Exceptions:

IOException if an I/O exception occurs while performing this operation.

UnknownHostException *(p. 3138)* if the host is unknown.

Implemented in **decaf::internal::net::ssl::DefaultSSLSocketFactory** (p. 1337), and **decaf::internal::net::ssl::openssl::OpenSSLSocketFactory** (p. 2299).

6.581.3.2 static SocketFactory* decaf::net::ssl::SSLSocketFactory::getDefault () [static]

Returns the current default SSL **SocketFactory** (p. 2774), the factory is returned as a pointer however the caller does not own this pointer and should not delete it. This method returns **SSLContext::getDefault()** (p. 2795)->getSocketFactory(). If that call fails, a non-functional factory is returned.

Returns:

the default SSL **SocketFactory** (p. 2774) pointer.

See also:

decaf::net::ssl::SSLContext::getDefault() (p. 2795)

Reimplemented from **decaf::net::SocketFactory** (p. 2777).

6.581.3.3 virtual std::vector<std::string> decaf::net::ssl::SSLSocketFactory::getDefaultCipherSuites () [pure virtual]

Returns the list of cipher suites which are enabled by default. Unless a different list is enabled, handshaking on an SSL connection will use one of these cipher suites. The minimum quality of service for these defaults requires confidentiality protection and server authentication (that is, no anonymous cipher suites).

Returns:

an STL vector containing the list of cipher suites enabled by default.

See also:

getSupportedCipherSuites() (p. 2823)

Implemented in **decaf::internal::net::ssl::DefaultSSLSocketFactory** (p. 1340), and **decaf::internal::net::ssl::openssl::OpenSSLSocketFactory** (p. 2302).

6.581.3.4 virtual std::vector<std::string> decaf::net::ssl::SSLSocketFactory::getSupportedCipherSuites () [pure virtual]

Returns the names of the cipher suites which could be enabled for use on an SSL connection. Normally, only a subset of these will actually be enabled by default, since this list may include cipher suites which do not meet quality of service requirements for those defaults. Such cipher suites are useful in specialized applications.

Returns:

an STL vector containing the list of supported cipher suites.

See also:

getDefaultCipherSuites() (p. 2823)

Implemented in **decaf::internal::net::ssl::DefaultSSLSocketFactory** (p. 1340), and **decaf::internal::net::ssl::openssl::OpenSSLSocketFactory** (p. 2302).

The documentation for this class was generated from the following file:

- src/main/decaf/net/ssl/**SSLSocketFactory.h**

6.582 activemq::transport::tcp::SslTransport Class Reference

Transport (p. 3109) for connecting to a Broker using an SSL Socket.

`#include <src/main/activemq/transport/tcp/SslTransport.h>`Inheritance diagram for activemq::transport::tcp::SslTransport:

Public Member Functions

- **SslTransport** (const **Pointer**< **Transport** > **next**, const **decaf::net::URI** &location)

  *Creates a new instance of the **SslTransport** (p. 2824), the **transport** (p. 72) will not attempt to connect to a remote host until the connect method is called.*

- virtual ~**SslTransport** ()

Protected Member Functions

- virtual **decaf::net::Socket** * **createSocket** ()

  *Create an unconnected Socket instance to be used by the **transport** (p. 72) to communicate with the broker.*
  Returns:

  a newly created unconnected Socket instance.
  Exceptions:

  ***IOException** if there is an error while creating the unconnected Socket.*

- virtual void **configureSocket** (**decaf::net::Socket** *socket)

  Using options from configuration URI, configure the socket options before the Socket instance is connected to the Server.
  Subclasses can override this option to set more configuration options, they should called the base class version to allow the default set of Socket options to also be configured.
  Parameters:

  ***socket** The Socket instance to configure using options from the given Properties.*
  Exceptions:

  ***NullPointerException** if the Socket instance is null.*
  ***IllegalArgumentException** if the socket instance is not handled by the class.*
  ***SocketException** if there is an error while setting one of the Socket options.*

6.582.1 Detailed Description

Transport (p. 3109) for connecting to a Broker using an SSL Socket. This **transport** (p. 72) simply wraps the **TcpTransport** (p. 2989) and provides the **TcpTransport** (p. 2989) an SSL based Socket pointer allowing the **core** (p. 63) **TcpTransport** (p. 2989) logic to be reused.

Since:

3.2.0

6.582.2 Constructor & Destructor Documentation

6.582.2.1 activemq::transport::tcp::SslTransport::SslTransport (const Pointer< Transport > *next*, const decaf::net::URI & *location*)

Creates a new instance of the **SslTransport** (p. 2824), the **transport** (p. 72) will not attempt to connect to a remote host until the connect method is called.

Parameters:

next The next **transport** (p. 72) in the chain

location The URI of the host this **transport** (p. 72) is to connect to.

6.582.2.2 virtual activemq::transport::tcp::SslTransport::~SslTransport () [virtual]

6.582.3 Member Function Documentation

6.582.3.1 virtual void activemq::transport::tcp::SslTransport::configureSocket (decaf::net::Socket * *socket*) [protected, virtual]

Using options from configuration URI, configure the socket options before the Socket instance is connected to the Server.

Subclasses can override this option to set more configuration options, they should called the base class version to allow the default set of Socket options to also be configured.

Parameters:

socket The Socket instance to configure using options from the given Properties.

Exceptions:

NullPointerException if the Socket instance is null.

IllegalArgumentException if the socket instance is not handled by the class.

SocketException if there is an error while setting one of the Socket options.

Reimplemented from **activemq::transport::tcp::TcpTransport** (p. 2991).

6.582.3.2 virtual decaf::net::Socket* activemq::transport::tcp::SslTransport::createSocket () [protected, virtual]

Create an unconnected Socket instance to be used by the **transport** (p. 72) to communicate with the broker.

Returns:

a newly created unconnected Socket instance.

Exceptions:

IOException if there is an error while creating the unconnected Socket.

Reimplemented from **activemq::transport::tcp::TcpTransport** (p. 2991).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/tcp/**SslTransport.h**

6.583 activemq::transport::tcp::SslTransportFactory Class Reference

`#include <src/main/activemq/transport/tcp/SslTransportFactory.h>`Inheritance diagram for activemq::transport::tcp::SslTransportFactory:

Public Member Functions

- virtual ~**SslTransportFactory** ()

Protected Member Functions

- virtual **Pointer< Transport > doCreateComposite** (const **decaf::net::URI** &location, const **Pointer< wireformat::WireFormat >** wireFormat, const **decaf::util::Properties** &properties)

6.583.1 Constructor & Destructor Documentation

6.583.1.1 virtual activemq::transport::tcp::SslTransportFactory::~SslTransportFactory () [virtual]

6.583.2 Member Function Documentation

6.583.2.1 virtual Pointer<Transport> activemq::transport::tcp::SslTransportFactory::doCreateComposite (const decaf::net::URI & *location*, const Pointer< wireformat::WireFormat > *wireFormat*, const decaf::util::Properties & *properties*) [protected, virtual]

Reimplemented from **activemq::transport::tcp::TcpTransportFactory** (p. 2995).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/tcp/**SslTransportFactory.h**

6.584 activemq::commands::BrokerError::StackTraceElement Struct Reference

`#include <src/main/activemq/commands/BrokerError.h>`

Public Member Functions

- **StackTraceElement** ()

Data Fields

- std::string **ClassName**
- std::string **FileName**
- std::string **MethodName**
- int **LineNumber**

6.584.1 Constructor & Destructor Documentation

6.584.1.1 activemq::commands::BrokerError::StackTraceElement::StackTraceElement () [inline]

6.584.2 Field Documentation

6.584.2.1 std::string activemq::commands::BrokerError::StackTraceElement::ClassName

6.584.2.2 std::string activemq::commands::BrokerError::StackTraceElement::FileName

6.584.2.3 int activemq::commands::BrokerError::StackTraceElement::LineNumber

6.584.2.4 std::string activemq::commands::BrokerError::StackTraceElement::MethodName

The documentation for this struct was generated from the following file:

- src/main/activemq/commands/**BrokerError.h**

6.585 decaf::internal::io::StandardErrorOutputStream Class Reference

Wrapper Around the Standard error Output facility on the current platform.

`#include <src/main/decaf/internal/io/StandardErrorOutputStream.h>`Inheritance diagram for decaf::internal::io::StandardErrorOutputStream:

Public Member Functions

- **StandardErrorOutputStream** ()
- virtual ~**StandardErrorOutputStream** ()
- virtual void **flush** ()

  Flushes this stream by writing any buffered output to the underlying stream.

  Exceptions:

  IOException (p. ***1774***) *if an I/O error occurs.*

  The default implementation of this method does nothing.

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.
  The object is generally no longer usable after calling close.

  Exceptions:

  IOException (p. ***1774***) *if an error occurs while closing.*

  The default implementation of this method does nothing.

Protected Member Functions

- virtual void **doWriteByte** (unsigned char value)
- virtual void **doWriteArrayBounded** (const unsigned char *buffer, int size, int offset, int length)

6.585.1 Detailed Description

Wrapper Around the Standard error Output facility on the current platform. This allows for the use of alternate output methods on platforms or compilers that do not support `std::cerr`.

6.585.2 Constructor & Destructor Documentation

6.585.2.1 decaf::internal::io::StandardErrorOutputStream::StandardErrorOutputStream ()

6.585.2.2 virtual decaf::internal::io::StandardErrorOutputStream::~StandardErrorOutputStream () [virtual]

6.585.3 Member Function Documentation

6.585.3.1 virtual void decaf::internal::io::StandardErrorOutputStream::close () [virtual]

Closes this object and deallocates the appropriate resources.

The object is generally no longer usable after calling close.

Exceptions:

IOException *(*p. *1774**)* if an error occurs while closing.

The default implementation of this method does nothing. The default implementation of this method does nothing.

Reimplemented from **decaf::io::OutputStream** (p. 2334).

6.585.3.2 virtual void decaf::internal::io::StandardErrorOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::OutputStream** (p. 2335).

6.585.3.3 virtual void decaf::internal::io::StandardErrorOutputStream::doWriteByte (unsigned char *value*) [protected, virtual]

Implements **decaf::io::OutputStream** (p. 2335).

6.585.3.4 virtual void decaf::internal::io::StandardErrorOutputStream::flush () [virtual]

Flushes this stream by writing any buffered output to the underlying stream.

Exceptions:

IOException *(*p. *1774**)* if an I/O error occurs.

The default implementation of this method does nothing. The default implementation of this method does nothing.

Reimplemented from **decaf::io::OutputStream** (p. 2335).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/io/**StandardErrorOutputStream.h**

6.586 decaf::internal::io::StandardInputStream Class Reference

`#include <src/main/decaf/internal/io/StandardInputStream.h>`Inheritance diagram for decaf::internal::io::StandardInputStream:

Public Member Functions

- **StandardInputStream** ()
- virtual ~**StandardInputStream** ()
- virtual int **available** () const

  Indicates the number of bytes available.

Protected Member Functions

- virtual int **doReadByte** ()

6.586.1 Constructor & Destructor Documentation

6.586.1.1 decaf::internal::io::StandardInputStream::StandardInputStream ()

6.586.1.2 virtual decaf::internal::io::StandardInputStream::~StandardInputStream () `[virtual]`

6.586.2 Member Function Documentation

6.586.2.1 virtual int decaf::internal::io::StandardInputStream::available () const `[virtual]`

Indicates the number of bytes available. The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException if an I/O error occurs.

Reimplemented from **decaf::io::InputStream** (p. 1695).

6.586.2.2 virtual int decaf::internal::io::StandardInputStream::doReadByte () [protected, virtual]

Implements **decaf::io::InputStream** (p. 1697).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/io/**StandardInputStream.h**

6.587 decaf::internal::io::StandardOutputStream Class Reference

`#include <src/main/decaf/internal/io/StandardOutputStream.h>`Inheritance diagram for decaf::internal::io::StandardOutputStream:

Public Member Functions

- **StandardOutputStream** ()
- virtual ~**StandardOutputStream** ()
- virtual void **flush** ()

  Flushes this stream by writing any buffered output to the underlying stream.
  Exceptions:

  IOException (p. ***1774***) *if an I/O error occurs.*

  The default implementation of this method does nothing.

- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.
  The object is generally no longer usable after calling close.
  Exceptions:

  IOException (p. ***1774***) *if an error occurs while closing.*

  The default implementation of this method does nothing.

Protected Member Functions

- virtual void **doWriteByte** (unsigned char value)
- virtual void **doWriteArrayBounded** (const unsigned char *buffer, int size, int offset, int length)

6.587.1 Constructor & Destructor Documentation

6.587.1.1 decaf::internal::io::StandardOutputStream::StandardOutputStream ()

6.587.1.2 virtual decaf::internal::io::StandardOutputStream::~StandardOutputStream () [virtual]

6.587.2 Member Function Documentation

6.587.2.1 virtual void decaf::internal::io::StandardOutputStream::close () [virtual]

Closes this object and deallocates the appropriate resources.

The object is generally no longer usable after calling close.

Exceptions:

IOException *(*p. *1774**)* if an error occurs while closing.

The default implementation of this method does nothing. The default implementation of this method does nothing.

Reimplemented from **decaf::io::OutputStream** (p. 2334).

6.587.2.2 virtual void decaf::internal::io::StandardOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::OutputStream** (p. 2335).

6.587.2.3 virtual void decaf::internal::io::StandardOutputStream::doWriteByte (unsigned char *value*) [protected, virtual]

Implements **decaf::io::OutputStream** (p. 2335).

6.587.2.4 virtual void decaf::internal::io::StandardOutputStream::flush () [virtual]

Flushes this stream by writing any buffered output to the underlying stream.

Exceptions:

IOException *(*p. *1774**)* if an I/O error occurs.

The default implementation of this method does nothing. The default implementation of this method does nothing.

Reimplemented from **decaf::io::OutputStream** (p. 2335).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/io/**StandardOutputStream.h**

6.588 cms::Startable Class Reference

Interface for a class that implements the start method.

`#include <src/main/cms/Startable.h>`Inheritance diagram for cms::Startable:

Public Member Functions

- virtual ~**Startable** ()
- virtual void **start** ()=0

  Starts the service.

6.588.1 Detailed Description

Interface for a class that implements the start method. An object that implements the **Startable** (p. 2836) interface implies that until its start method is called it will be considered to be in a closed or stopped state and will throw an Exception to indicate that it is not in an started state if one of its methods is called.

Since:

1.0

6.588.2 Constructor & Destructor Documentation

6.588.2.1 virtual cms::Startable::~Startable () [virtual]

6.588.3 Member Function Documentation

6.588.3.1 virtual void cms::Startable::start () [pure virtual]

Starts the service.

Exceptions:

CMSException *(*p. *973)* if an internal error occurs while starting.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 869), **activemq::cmsutil::PooledSession** (p. 2377), **activemq::core::ActiveMQConnection** (p. 265), **activemq::core::ActiveMQConsumer** (p. 302), **activemq::core::ActiveMQSession** (p. 438), **activemq::core::kernels::ActiveMQConsumerKernel** (p. 317), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 465).

Referenced by activemq::cmsutil::PooledSession::start(), and activemq::cmsutil::CachedConsumer::start().

The documentation for this class was generated from the following file:

- src/main/cms/**Startable.h**

6.589 decaf::lang::STATIC_CAST_TOKEN Struct Reference

`#include <src/main/decaf/lang/Pointer.h>`

The documentation for this struct was generated from the following file:

- src/main/decaf/lang/**Pointer.h**

6.590 activemq::core::ActiveMQConstants::StaticInitializer Class Reference

`#include <src/main/activemq/core/ActiveMQConstants.h>`

Public Member Functions

- **StaticInitializer** ()
- virtual ~**StaticInitializer** ()

Static Public Attributes

- static std::string **destOptions** [NUM_OPTIONS]
- static std::string **uriParams** [NUM_PARAMS]
- static std::map< std::string, **DestinationOption** > **destOptionMap**
- static std::map< std::string, **URIParam** > **uriParamsMap**

6.590.1 Constructor & Destructor Documentation

6.590.1.1 activemq::core::ActiveMQConstants::StaticInitializer::StaticInitializer ()

6.590.1.2 virtual activemq::core::ActiveMQConstants::StaticInitializer::~StaticInitializer () `[inline, virtual]`

6.590.2 Field Documentation

6.590.2.1 std::map<std::string, DestinationOption> activemq::core::ActiveMQConstants::StaticInitializer::destOptionMap `[static]`

6.590.2.2 std::string activemq::core::ActiveMQConstants::StaticInitializer::destOptions[NUM_OPTIONS] `[static]`

6.590.2.3 std::string activemq::core::ActiveMQConstants::StaticInitializer::uriParams[NUM_PARAMS] `[static]`

6.590.2.4 std::map<std::string, URIParam> activemq::core::ActiveMQConstants::StaticInitializer::uriParamsMap `[static]`

The documentation for this class was generated from the following file:

- src/main/activemq/core/**ActiveMQConstants.h**

6.591 decaf::util::StlList< E > Class Template Reference

List (p. 1889) class that wraps the STL list object to provide a simpler interface and additional methods not provided by the STL type.

`#include <src/main/decaf/util/StlList.h>`Inheritance diagram for decaf::util::StlList< E >:

Data Structures

- class **ConstStlListIterator**
- class **StlListIterator**

Public Member Functions

- **StlList** ()

  Default constructor - does nothing.

- **StlList** (const **StlList** &source)

  Copy constructor - copies the content of the given set into this one.

- **StlList** (const **Collection**< E > &source)

  Copy constructor - copies the content of the given set into this one.

- virtual bool **equals** (const **Collection**< E > &collection) const

  *Answers true if this **Collection** (p. 1000) and the one given are the same size and if each element contained in the **Collection** (p. 1000) given is equal to an element contained in this collection.*

  Parameters:

  ***collection** - The **Collection** (p. 1000) to be compared to this one.*

  Returns:

  *true if this **Collection** (p. 1000) is equal to the one given.*

- virtual void **copy** (const **Collection**< E > &collection)

  *Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000).*
  The default implementation iterates over the contents of the given collection adding each to this collection after first calling this Collection's clear method.

  Parameters:

  ***collection** The collection to mirror.*

  Exceptions:

  ***UnsupportedOperationExceptio** if this is an unmodifiable collection.*
  ***IllegalStateException** if the elements cannot be added at this time due to insertion restrictions.*

- virtual **Iterator**< E > * **iterator** ()

  Returns:

  an iterator over a set of elements of type T.

- virtual **Iterator**< E > * **iterator** () const

- virtual **ListIterator**< E > * **listIterator** ()

  Returns:

  a list iterator over the elements in this list (in proper sequence).

- virtual **ListIterator**< E > * **listIterator** () const
- virtual **ListIterator**< E > * **listIterator** (int index)

  Parameters:

  index *index of first element to be returned from the list iterator (by a call to the next method).*

  Returns:

  a list iterator of the elements in this list (in proper sequence), starting at the specified position in this list. The specified index indicates the first element that would be returned by an initial call to next. An initial call to previous would return the element with the specified index minus one.

  Exceptions:

  IndexOutOfBoundsException *if the index is out of range (index < 0 || index >* ***size()*** *(p. 1009))*

- virtual **ListIterator**< E > * **listIterator** (int index) const
- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).
  The collection will be empty after this method returns.
  This implementation iterates over this collection, removing each element using the ***Iterator.remove*** *(p. 1790) operation. Most implementations will probably choose to override this method for efficiency.*
  Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

  Exceptions:

  UnsupportedOperationException *if the clear operation is not supported by this collection*

- virtual bool **isEmpty** () const

  Returns true if this collection contains no elements.
  This implementation returns ***size()*** *(p. 1009) == 0.*

  Returns:

  true if the size method return 0.

- virtual int **size** () const

  Returns the number of elements in this collection.
  If this collection contains more than Integer::MAX_ VALUE elements, returns Integer::MAX_ - VALUE.

  Returns:

  the number of elements in this collection

- virtual E **get** (int index) const

  Gets the element contained at position passed.

  Parameters:

  index *The position to get.*

  Returns:

  value at index specified.

Exceptions:

IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*

- virtual E **set** (int index, const E &element)

  Replaces the element at the specified position in this list with the specified element.

  Parameters:

  index *The index of the element to replace.*
  element *The element to be stored at the specified position.*

  Returns:

  the element previously at the specified position.

  Exceptions:

  IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*
  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
  IllegalArgumentException *if some property of the element prevents it from being added to this collection*
  IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

- virtual void **add** (int index, const E &element)

  Inserts the specified element at the specified position in this list.

- virtual bool **add** (const E &value)

  Returns true if this collection changed as a result of the call.

- virtual bool **addAll** (const **Collection**< E > &collection)

  This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.
  Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

- virtual bool **addAll** (int index, const **Collection**< E > &collection)

  Inserts all of the elements in the specified collection into this list at the specified position (optional operation).
  Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

  Parameters:

  index *The index at which to insert the first element from the specified collection*
  source *The* ***Collection*** *(p. 1000) containing elements to be added to this list*

  Returns:

  true if this list changed as a result of the call

  Exceptions:

  IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(p. 1889) size.*
  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
  IllegalArgumentException *if some property of the element prevents it from being added to this collection*

IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

- virtual bool **remove** (const E &value)

  Removes a single instance of the specified element from the collection.
  More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

  Parameters:

  value *The reference to the element to remove from this* ***Collection*** *(*p. 1000*).*

  Returns:

  true if the collection was changed, false otherwise.

  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(*p. 1000*) is a container of pointers and does not allow NULL values.*

  This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.
  Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

- virtual E **removeAt** (int index)

  Removes the element at the specified position in this list.
  Shifts any subsequent elements to the left (subtracts one from their indices). Returns the element that was removed from the list.

  Parameters:

  index *- the index of the element to be removed.*

  Returns:

  the element previously at the specified position.

  Exceptions:

  IndexOutOfBoundsException *if the index given is less than zero or greater than the* ***List*** *(*p. 1889*) size.*
  UnsupportedOperationExceptio *if this is an unmodifiable collection.*

- virtual int **indexOf** (const E &value) const

  Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual int **lastIndexOf** (const E &value) const

  Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element.

- virtual bool **contains** (const E &value) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

  Parameters:

  value *The value to check for presence in the collection.*

  Returns:

  true if there is at least one of the elements in the collection

Exceptions:

NullPointerException *if the* ***Collection*** *(p. 1000) contains pointers and the* ***Collection*** *(p. 1000) does not allow for NULL elements (optional check).*

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

6.591.1 Detailed Description

template<typename E> class decaf::util::StlList< E >

List (p. 1889) class that wraps the STL list object to provide a simpler interface and additional methods not provided by the STL type.

6.591.2 Constructor & Destructor Documentation

6.591.2.1 template<typename E> decaf::util::StlList< E >::StlList () [inline]

Default constructor - does nothing.

6.591.2.2 template<typename E> decaf::util::StlList< E >::StlList (const StlList< E > & *source*) [inline]

Copy constructor - copies the content of the given set into this one.

Parameters:

source The source set.

References decaf::util::StlList< E >::copy().

6.591.2.3 template<typename E> decaf::util::StlList< E >::StlList (const Collection< E > & *source*) [inline]

Copy constructor - copies the content of the given set into this one.

Parameters:

source The source set.

References decaf::util::StlList< E >::copy().

6.591.3 Member Function Documentation

6.591.3.1 template<typename E> virtual bool decaf::util::StlList< E >::add (const E & *value*) [inline, virtual]

Returns true if this collection changed as a result of the call. (Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and

others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Reimplemented from **decaf::util::AbstractList< E >** (p. 158).

6.591.3.2 template<typename E> virtual void decaf::util::StlList< E >::add (int *index*, const E & *element*) [inline, virtual]

Inserts the specified element at the specified position in this list. Shifts the element currently at that position (if any) and any subsequent elements to the right (adds one to their indices).

Parameters:

index The index at which the specified element is to be inserted.

element The element to be inserted in this **List** (p. 1889).

Exceptions:

IndexOutOfBoundsException if the index is greater than size of the **List** (p. 1889).

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::List< E >** (p. 1890).

References decaf::util::StlList< E >::size().

6.591.3.3 template<typename E> virtual bool decaf::util::StlList< E >::addAll (int *index*, const Collection< E > & *collection*) [inline, virtual]

Inserts all of the elements in the specified collection into this list at the specified position (optional operation).

Shifts the element currently at that position (if any) and any subsequent elements to the right (increases their indices). The new elements will appear in this list in the order that they are returned by the specified collection's iterator. The behavior of this operation is undefined if the specified collection is modified while the operation is in progress. (Note that this will occur if the specified collection is this list, and it's nonempty.)

Parameters:

index The index at which to insert the first element from the specified collection

source The **Collection** (p. 1000) containing elements to be added to this list

Returns:

true if this list changed as a result of the call

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Reimplemented from **decaf::util::AbstractList< E >** (p. 159).

References decaf::util::Collection< E >::isEmpty(), decaf::util::StlList< E >::listIterator(), decaf::util::StlList< E >::size(), and decaf::util::Collection< E >::toArray().

6.591.3.4 template<typename E> virtual bool decaf::util::StlList< E >::addAll (const Collection< E > & *collection*) [inline, virtual]

This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty). This implementation iterates over the specified collection, and adds each object returned by the iterator to this collection, in turn.

Note that this implementation will throw an UnsupportedOperationException unless add is overridden (assuming the specified collection is non-empty).

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 143).

References decaf::util::Collection< E >::isEmpty(), decaf::util::StlList< E >::listIterator(), and decaf::util::Collection< E >::toArray().

6.591.3.5 template<typename E> virtual void decaf::util::StlList< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation).

The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractList< E >** (p. 160).

6.591.3.6 template<typename E> virtual bool decaf::util::StlList< E >::contains (const E & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element. This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 145).

6.591.3.7 template<typename E> virtual void decaf::util::StlList< E >::copy (const Collection< E > & *collection*) [inline, virtual]

Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000).

The default implementation iterates over the contents of the given collection adding each to this collection after first calling this Collection's clear method.

Parameters:

collection The collection to mirror.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

IllegalStateException if the elements cannot be added at this time due to insertion restrictions.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 146).

References NULL.

Referenced by decaf::util::StlList< E >::StlList().

6.591.3.8 template<typename E> virtual bool decaf::util::StlList< E >::equals (const Collection< E > & *collection*) const [inline, virtual]

Answers true if this **Collection** (p. 1000) and the one given are the same size and if each element contained in the **Collection** (p. 1000) given is equal to an element contained in this collection.

Parameters:

collection - The **Collection** (p. 1000) to be compared to this one.

Returns:

true if this **Collection** (p. 1000) is equal to the one given.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

References NULL.

6.591.3.9 template<typename E> virtual E decaf::util::StlList< E >::get (int *index*) const [inline, virtual]

Gets the element contained at position passed.

Parameters:

index The position to get.

Returns:

value at index specified.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

Implements **decaf::util::List< E >** (p. 1892).

References decaf::util::StlList< E >::size().

6.591.3.10 template<typename E> virtual int decaf::util::StlList< E >::indexOf (const E & *value*) const [inline, virtual]

Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the lowest index i such that get(i) == value, or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the first occurrence of the specified element in this list,

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Reimplemented from **decaf::util::AbstractList< E >** (p. 160).

6.591.3.11 template<typename E> virtual bool decaf::util::StlList< E >::isEmpty () const [inline, virtual]

Returns true if this collection contains no elements.

This implementation returns **size()** (p. 1009) == 0.

Returns:

true if the size method return 0.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

6.591.3.12 template<typename E> virtual Iterator<E>* decaf::util::StlList< E >::iterator () const [inline, virtual]

Reimplemented from **decaf::util::AbstractList< E >** (p. 161).

6.591.3.13 template<typename E> virtual Iterator<E>* decaf::util::StlList< E >::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Reimplemented from **decaf::util::AbstractList< E >** (p. 161).

6.591.3.14 template<typename E> virtual int decaf::util::StlList< E >::lastIndexOf (const E & *value*) const [inline, virtual]

Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element. More formally, returns the highest index i such that get(i) == value or -1 if there is no such index.

Parameters:

value The element to search for in this **List** (p. 1889).

Returns:

the index of the last occurrence of the specified element in this list.

Exceptions:

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

Reimplemented from **decaf::util::AbstractList< E >** (p. 162).

References decaf::util::StlList< E >::size().

6.591.3.15 template<typename E> virtual ListIterator<E>* decaf::util::StlList< E >::listIterator (int index) const [inline, virtual]

Reimplemented from **decaf::util::AbstractList< E >** (p. 162).

References decaf::util::StlList< E >::size().

6.591.3.16 template<typename E> virtual ListIterator<E>* decaf::util::StlList< E >::listIterator (int index) [inline, virtual]

Parameters:

index index of first element to be returned from the list iterator (by a call to the next method).

Returns:

a list iterator of the elements in this list (in proper sequence), starting at the specified position in this list. The specified index indicates the first element that would be returned by an initial call to next. An initial call to previous would return the element with the specified index minus one.

Exceptions:

IndexOutOfBoundsException if the index is out of range (index < 0 || index > **size()** (p. 1009))

Reimplemented from **decaf::util::AbstractList< E >** (p. 163).

References decaf::util::StlList< E >::size().

6.591.3.17 template<typename E> virtual ListIterator<E>* decaf::util::StlList< E >::listIterator () const [inline, virtual]

Reimplemented from **decaf::util::AbstractList< E >** (p. 164).

6.591.3.18 template<typename E> virtual ListIterator<E>* decaf::util::StlList< E >::listIterator () [inline, virtual]

Returns:

a list iterator over the elements in this list (in proper sequence).

Reimplemented from **decaf::util::AbstractList< E >** (p. 164).

Referenced by decaf::util::StlList< E >::addAll().

6.591.3.19 template<typename E> virtual bool decaf::util::StlList< E >::remove (const E & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 149).

References decaf::util::StlList< E >::size().

6.591.3.20 template<typename E> virtual E decaf::util::StlList< E >::removeAt (int index) [inline, virtual]

Removes the element at the specified position in this list.

Shifts any subsequent elements to the left (subtracts one from their indices). Returns the element that was removed from the list.

Parameters:

index - the index of the element to be removed.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

Reimplemented from **decaf::util::AbstractList< E >** (p. 165).

References decaf::util::StlList< E >::size().

6.591.3.21 template<typename E> virtual E decaf::util::StlList< E >::set (int index, const E & *element*) [inline, virtual]

Replaces the element at the specified position in this list with the specified element.

Parameters:

index The index of the element to replace.

element The element to be stored at the specified position.

Returns:

the element previously at the specified position.

Exceptions:

IndexOutOfBoundsException if the index given is less than zero or greater than the **List** (p. 1889) size.

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::List< E >** (p. 1898).

References decaf::util::StlList< E >::size().

6.591.3.22 template<typename E> virtual int decaf::util::StlList< E >::size () const [inline, virtual]

Returns the number of elements in this collection.

If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< E >** (p. 1009).

Referenced by decaf::util::StlList< E >::add(), decaf::util::StlList< E >::addAll(), decaf::util::StlList< E >::get(), decaf::util::StlList< E >::lastIndexOf(), decaf::util::StlList< E >::listIterator(), decaf::util::StlList< E >::remove(), decaf::util::StlList< E >::removeAt(), and decaf::util::StlList< E >::set().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**StlList.h**

6.592 decaf::util::StlMap< K, V, COMPARATOR > Class Template Reference

Map (p. 1995) template that wraps around a std::map to provide a more user-friendly interface and to provide common functions that do not exist in std::map.

`#include <src/main/decaf/util/StlMap.h>`Inheritance diagram for decaf::util::StlMap< K, V, COMPARATOR >:

Data Structures

- class **AbstractMapIterator**
- class **ConstAbstractMapIterator**
- class **ConstEntryIterator**
- class **ConstKeyIterator**
- class **ConstStlMapEntrySet**
- class **ConstStlMapKeySet**
- class **ConstStlMapValueCollection**
- class **ConstValueIterator**
- class **EntryIterator**
- class **KeyIterator**
- class **StlMapEntrySet**
- class **StlMapKeySet**
- class **StlMapValueCollection**
- class **ValueIterator**

Public Member Functions

- **StlMap** ()

  Default constructor - does nothing.

- **StlMap** (const **StlMap** &source)

  Copy constructor - copies the content of the given map into this one.

- **StlMap** (const **Map**< K, V > &source)

  Copy constructor - copies the content of the given map into this one.

- virtual ~**StlMap** ()
- virtual bool **equals** (const **StlMap** &source) const

  Compares the specified object with this map for equality.
  *Returns true if the two maps represent the same mappings. More formally, two maps m1 and m2 represent the same mappings if m1.entrySet().equals(m2.entrySet()). This ensures that the equals method works properly across different implementations of the **Map** (p. 1995) interface.*

  Parameters:

  source *__Map__ (p. 1995) to compare to this one.*

  Returns:

  true if the __Map__ (p. 1995) passed is equal in value to this one.

- virtual bool **equals** (const **Map**< K, V > &source) const

- virtual void **copy** (const **StlMap** &source)

  Copies the content of the source map into this map.
  *Erases all existing mappings in this map. The copy is performed by using the entrySet of the source **Map** (p. 1995) and iterating over those entries, inserting each into the target.*
  Parameters:

  source *The source object to copy from.*

- virtual void **copy** (const **Map**< K, V > &source)

- virtual void **clear** ()

  Removes all of the mappings from this map (optional operation).
  The map will be empty after this call returns.
  Exceptions:

  UnsupportedOperationException *if the clear operation is not supported by this map.*

- virtual bool **containsKey** (const K &key) const

  Returns true if this map contains a mapping for the specified key.
  More formally, returns true if and only if this map contains a mapping for a key k such that (key == k). (There can be at most one such mapping.)
  Parameters:

  key *The key to look up.*
  Returns:

  true if this map contains the key mapping, otherwise false.

- virtual bool **containsValue** (const V &value) const

  Returns true if this map maps one or more keys to the specified value.
  *More formally, returns true if and only if this map contains at least one mapping to a value v such that (value==v). This operation will probably require time linear in the map size for most implementations of the **Map** (p. 1995) interface.*
  Parameters:

  value *The Value to look up in this **Map** (p. 1995).*
  Returns:

  true if this map contains at least one mapping for the value, otherwise false.

- virtual bool **isEmpty** () const
  Returns:

  *if the **Map** (p. 1995) contains any element or not, TRUE or FALSE*

- virtual int **size** () const
  Returns:

  The number of elements (key/value pairs) in this map.

- virtual V & **get** (const K &key)

*Gets the value mapped to the specified key in the **Map** (p. 1995).*
*If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.*

Parameters:

key *The search key whose value should be returned if present.*

Returns:

*A reference to the value for the given key if present in the **Map** (p. 1995).*

Exceptions:

***NoSuchElementException** (p. 2247) if the key requests doesn't exist in the **Map** (p. 1995).*

- virtual const V & **get** (const K &key) const

*Gets the value mapped to the specified key in the **Map** (p. 1995).*
*If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.*

Parameters:

key *The search key whose value should be returned if present.*

Returns:

*A const reference to the value for the given key if present in the **Map** (p. 1995).*

Exceptions:

***NoSuchElementException** (p. 2247) if the key requests doesn't exist in the **Map** (p. 1995).*

- virtual bool **put** (const K &key, const V &value)

Associates the specified value with the specified key in this map (optional operation).
If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

Parameters:

key *The target key.*
value *The value to be set.*

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException *if this map is unmodifiable.*
IllegalArgumentException *if some property of the specified key or value prevents it from being stored in this map*

- virtual bool **put** (const K &key, const V &value, V &oldValue)

Associates the specified value with the specified key in this map (optional operation).
If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)
This method accepts a reference to a value which will be assigned the previous value for the given key (if any). If there was no previous mapping for the given key the out value is not written to. A return of true indicates that a value was replaced by this put operation.

Parameters:

key *The target key.*
value *The value to be set.*
oldValue *(out) The value previously held in the mapping for this key. .*

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException *if this map is unmodifiable.*
IllegalArgumentException *if some property of the specified key or value prevents it from being stored in this map*

- virtual void **putAll** (const **StlMap**< K, V, COMPARATOR > &other)

Copies all of the mappings from the specified map to this map (optional operation).
The effect of this call is equivalent to that of calling put(k, v) on this map once for each mapping from key k to value v in the specified map. The behavior of this operation is undefined if the specified map is modified while the operation is in progress.

Parameters:

other *A* ***Map*** *(p. 1995) instance whose elements are to all be inserted in this* ***Map*** *(p. 1995).*

Exceptions:

UnsupportedOperationException *If the implementing class does not support the putAll operation.*

- virtual void **putAll** (const **Map**< K, V > &other)

- virtual V **remove** (const K &key)

Removes the value (key/value pair) for the specified key from the map, returns a copy of the value that was mapped to the key.
Care must be taken when using this operation as it will throw an exception if there is no mapping for the given key.

Parameters:

key *The search key whose mapping is to be removed.*

Returns:

a copy of the element that was previously mapped to the given key.

Exceptions:

NoSuchElementException *(p. 2247) if this key is not in the* ***Map*** *(p. 1995).*
UnsupportedOperationException *if this map is unmodifiable.*

- virtual **Set**< **MapEntry**< K, V > > & **entrySet** ()

Returns a ***Set*** *(p. 2700) view of the mappings contained in this map.*

- virtual const **Set**< **MapEntry**< K, V > > & **entrySet** () const
- virtual **Set**< K > & **keySet** ()

Returns a ***Set*** *(p. 2700) view of the keys contained in this map.*

- virtual const **Set**< K > & **keySet** () const
- virtual **Collection**< V > & **values** ()

Returns a ***Collection*** *(p. 1000) view of the values contained in this map.*

- virtual const **Collection**< V > & **values** () const
- virtual void **lock** ()

Locks the object.

- virtual bool **tryLock** ()

  Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

6.592.1 Detailed Description

template<typename K, typename V, typename COMPARATOR = std::less<K>> class decaf::util::StlMap< K, V, COMPARATOR >

Map (p. 1995) template that wraps around a std::map to provide a more user-friendly interface and to provide common functions that do not exist in std::map.

Since:

1.0

6.592.2 Constructor & Destructor Documentation

6.592.2.1 template<typename K, typename V, typename COMPARATOR = std::less<K>> decaf::util::StlMap< K, V, COMPARATOR >::StlMap () [inline]

Default constructor - does nothing.

6.592.2.2 template<typename K, typename V, typename COMPARATOR = std::less<K>> decaf::util::StlMap< K, V, COMPARATOR >::StlMap (const StlMap< K, V, COMPARATOR > & *source*) [inline]

Copy constructor - copies the content of the given map into this one.

Parameters:

source The source **StlMap** (p. 2853) whose entries are copied into this **Map** (p. 1995).

6.592.2.3 template<typename K, typename V, typename COMPARATOR = std::less<K>> decaf::util::StlMap< K, V, COMPARATOR >::StlMap (const Map< K, V > & *source*) [inline]

Copy constructor - copies the content of the given map into this one.

Parameters:

source The source ma whose entries are copied into this **Map** (p. 1995)..

6.592.2.4 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual decaf::util::StlMap< K, V, COMPARATOR >::~StlMap () [inline, virtual]

6.592.3 Member Function Documentation

6.592.3.1 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::clear () [inline, virtual]

Removes all of the mappings from this map (optional operation).

The map will be empty after this call returns.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this map.

Implements **decaf::util::Map< K, V >** (p. 1997).

Referenced by decaf::util::StlMap< std::string, cms::Topic * >::copy().

6.592.3.2 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::StlMap< K, V, COMPARATOR >::containsKey (const K & *key*) const [inline, virtual]

Returns true if this map contains a mapping for the specified key.

More formally, returns true if and only if this map contains a mapping for a key k such that (key == k). (There can be at most one such mapping.)

Parameters:

key The key to look up.

Returns:

true if this map contains the key mapping, otherwise false.

Implements **decaf::util::Map< K, V >** (p. 1998).

Referenced by decaf::util::StlMap< std::string, cms::Topic * >::equals(), and decaf::util::StlMap< std::string, cms::Topic * >::put().

6.592.3.3 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::StlMap< K, V, COMPARATOR >::containsValue (const V & *value*) const [inline, virtual]

Returns true if this map maps one or more keys to the specified value.

More formally, returns true if and only if this map contains at least one mapping to a value v such that (value==v). This operation will probably require time linear in the map size for most implementations of the **Map** (p. 1995) interface.

Parameters:

value The Value to look up in this **Map** (p. 1995).

Returns:

true if this map contains at least one mapping for the value, otherwise false.

Implements **decaf::util::Map< K, V >** (p. 1998).

6.592.3.4 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::copy (const Map< K, V > & *source*) [inline, virtual]

6.592.3.5 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::copy (const StlMap< K, V, COMPARATOR > & *source*) [inline, virtual]

Copies the content of the source map into this map.

Erases all existing mappings in this map. The copy is performed by using the entrySet of the source **Map** (p. 1995) and iterating over those entries, inserting each into the target.

Parameters:

source The source object to copy from.

Implements **decaf::util::Map< K, V >** (p. 1999).

Referenced by decaf::util::StlMap< std::string, cms::Topic * >::StlMap().

6.592.3.6 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual const Set< MapEntry<K, V> >& decaf::util::StlMap< K, V, COMPARATOR >::entrySet () const [inline, virtual]

Implements **decaf::util::Map< K, V >** (p. 1999).

6.592.3.7 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual Set< MapEntry<K, V> >& decaf::util::StlMap< K, V, COMPARATOR >::entrySet () [inline, virtual]

Returns a **Set** (p. 2700) view of the mappings contained in this map. The set is backed by the map, so changes to the map are reflected in the set, and vice-versa. If the map is modified while

an iteration over the set is in progress (except through the iterator's own remove operation, or through the setValue operation on a map entry returned by the iterator) the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Set.remove** (p. 1007), removeAll, retainAll and clear operations. It does not support the add or addAll operations.

Returns:

a reference to a **Set** (p. 2700)<MapEntry<K,V>> that is backed by this **Map** (p. 1995).

Implements **decaf::util::Map< K, V >** (p. 1999).

6.592.3.8 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::StlMap< K, V, COMPARATOR >::equals (const Map< K, V > & *source*) const [inline, virtual]

6.592.3.9 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::StlMap< K, V, COMPARATOR >::equals (const StlMap< K, V, COMPARATOR > & *source*) const [inline, virtual]

Compares the specified object with this map for equality.

Returns true if the two maps represent the same mappings. More formally, two maps m1 and m2 represent the same mappings if m1.entrySet().equals(m2.entrySet()). This ensures that the equals method works properly across different implementations of the **Map** (p. 1995) interface.

Parameters:

source **Map** (p. 1995) to compare to this one.

Returns:

true if the **Map** (p. 1995) passed is equal in value to this one.

Implements **decaf::util::Map< K, V >** (p. 2000).

6.592.3.10 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual const V& decaf::util::StlMap< K, V, COMPARATOR >::get (const K & *key*) const [inline, virtual]

Gets the value mapped to the specified key in the **Map** (p. 1995).

If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.

Parameters:

key The search key whose value should be returned if present.

Returns:

A const reference to the value for the given key if present in the **Map** (p. 1995).

Exceptions:

NoSuchElementException *(p. 2247)* if the key requests doesn't exist in the **Map** (p. 1995).

Implements **decaf::util::Map< K, V >** (p. 2001).

6.592.3.11 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual V& decaf::util::StlMap< K, V, COMPARATOR >::get (const K & *key*) [inline, virtual]

Gets the value mapped to the specified key in the **Map** (p. 1995).

If there is no element in the map whose key is equivalent to the key provided then a **NoSuchElementException** (p. 2247) is thrown.

Parameters:

key The search key whose value should be returned if present.

Returns:

A reference to the value for the given key if present in the **Map** (p. 1995).

Exceptions:

NoSuchElementException *(p. 2247)* if the key requests doesn't exist in the **Map** (p. 1995).

Implements **decaf::util::Map< K, V >** (p. 2001).

6.592.3.12 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::StlMap< K, V, COMPARATOR >::isEmpty () const [inline, virtual]

Returns:

if the **Map** (p. 1995) contains any element or not, TRUE or FALSE

Implements **decaf::util::Map< K, V >** (p. 2002).

6.592.3.13 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual const Set<K>& decaf::util::StlMap< K, V, COMPARATOR >::keySet () const [inline, virtual]

Implements **decaf::util::Map< K, V >** (p. 2002).

6.592.3.14 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual Set<K>& decaf::util::StlMap< K, V, COMPARATOR >::keySet () [inline, virtual]

Returns a **Set** (p. 2700) view of the keys contained in this map. The set is backed by the map, so changes to the map are reflected in the set, and vice-versa. If the map is modified while an

iteration over the set is in progress (except through the iterator's own remove operation), the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Set.remove** (p. 1007), removeAll, retainAll, and clear operations. It does not support the add or addAll operations.

Returns:

a set view of the keys contained in this map,

Implements **decaf::util::Map< K, V >** (p. 2003).

Referenced by decaf::util::StlMap< std::string, cms::Topic * >::equals().

6.592.3.15 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

6.592.3.16 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.592.3.17 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.592.3.18 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::StlMap< K, V, COMPARATOR >::put (const K & *key*, const V & *value*, V & *oldValue*) [inline, virtual]

Associates the specified value with the specified key in this map (optional operation).

If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

This method accepts a reference to a value which will be assigned the previous value for the given key (if any). If there was no previous mapping for the given key the out value is not written to. A return of true indicates that a value was replaced by this put operation.

Parameters:

key The target key.

value The value to be set.

oldValue (out) The value previously held in the mapping for this key. .

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException if this map is unmodifiable.

IllegalArgumentException if some property of the specified key or value prevents it from being stored in this map

Implements **decaf::util::Map< K, V >** (p. 2004).

6.592.3.19 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::StlMap< K, V, COMPARATOR >::put (const K & *key*, const V & *value*) [inline, virtual]

Associates the specified value with the specified key in this map (optional operation).

If the map previously contained a mapping for the key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if m.containsKey(k) would return true.)

Parameters:

key The target key.

value The value to be set.

Returns:

true if the put operation replaced a value that was associated with an existing mapping to the given key or false otherwise.

Exceptions:

UnsupportedOperationException if this map is unmodifiable.

IllegalArgumentException if some property of the specified key or value prevents it from being stored in this map

Implements **decaf::util::Map< K, V >** (p. 2004).

Referenced by decaf::util::StlMap< std::string, cms::Topic * >::putAll().

6.592.3.20 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::putAll (const Map< K, V > & *other*) [inline, virtual]

6.592.3.21 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::putAll (const StlMap< K, V, COMPARATOR > & *other*) [inline, virtual]

Copies all of the mappings from the specified map to this map (optional operation).

The effect of this call is equivalent to that of calling put(k, v) on this map once for each mapping from key k to value v in the specified map. The behavior of this operation is undefined if the specified map is modified while the operation is in progress.

Parameters:

other A **Map** (p. 1995) instance whose elements are to all be inserted in this **Map** (p. 1995).

Exceptions:

UnsupportedOperationException If the implementing class does not support the putAll operation.

Implements **decaf::util::Map< K, V >** (p. 2005).

Referenced by decaf::util::StlMap< std::string, cms::Topic * >::copy().

6.592.3.22 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual V decaf::util::StlMap< K, V, COMPARATOR >::remove (const K & *key*) [inline, virtual]

Removes the value (key/value pair) for the specified key from the map, returns a copy of the value that was mapped to the key.

Care must be taken when using this operation as it will throw an exception if there is no mapping for the given key.

Parameters:

key The search key whose mapping is to be removed.

Returns:

a copy of the element that was previously mapped to the given key.

Exceptions:

NoSuchElementException *(p. 2247)* if this key is not in the **Map** (p. 1995).

UnsupportedOperationException if this map is unmodifiable.

Implements **decaf::util::Map< K, V >** (p. 2005).

6.592.3.23 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual int decaf::util::StlMap< K, V, COMPARATOR >::size () const [inline, virtual]

Returns:

The number of elements (key/value pairs) in this map.

Implements **decaf::util::Map< K, V >** (p. 2006).

6.592.3.24 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual bool decaf::util::StlMap< K, V, COMPARATOR >::tryLock () [inline, virtual]

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

6.592.3.25 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

6.592.3.26 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual const Collection<V>& decaf::util::StlMap< K, V, COMPARATOR >::values () const [inline, virtual]

Implements **decaf::util::Map< K, V >** (p. 2007).

6.592.3.27 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual Collection<V>& decaf::util::StlMap< K, V, COMPARATOR >::values () [inline, virtual]

Returns a **Collection** (p. 1000) view of the values contained in this map. The collection is backed by the map, so changes to the map are reflected in the collection, and vice-versa. If the map is modified while an iteration over the collection is in progress (except through the iterator's own remove operation), the results of the iteration are undefined. The collection supports element removal, which removes the corresponding mapping from the map, via the **Iterator.remove** (p. 1790), **Collection.remove** (p. 1007), removeAll, retainAll and clear operations. It does not support the add or addAll operations. For the const version of this method the **Collection** (p. 1000) can only be used as a view into the **Map** (p. 1995).

Returns:

a collection view of the values contained in this map.

Implements **decaf::util::Map< K, V >** (p. 2007).

6.592.3.28 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.592.3.29 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.592.3.30 template<typename K, typename V, typename COMPARATOR = std::less<K>> virtual void decaf::util::StlMap< K, V, COMPARATOR >::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**StlMap.h**

6.593 decaf::util::StlQueue< T > Class Template Reference

The **Queue** (p. 2500) class accepts messages with an psuh(m) command where m is the message to be queued.

`#include <src/main/decaf/util/StlQueue.h>`Inheritance diagram for decaf::util::StlQueue< T >:

Data Structures

- class **QueueIterator**

Public Member Functions

- **StlQueue** ()
- virtual ~**StlQueue** ()
- **Iterator**< T > * **iterator** ()

  *Gets an **Iterator** (p. 1789) over this **Queue** (p. 2500).*

- void **clear** ()

  Empties this queue.

- T & **front** ()

  Returns a Reference to the element at the head of the queue.

- const T & **front** () const

  Returns a Reference to the element at the head of the queue.

- T & **back** ()

  Returns a Reference to the element at the tail of the queue.

- const T & **back** () const

  Returns a Reference to the element at the tail of the queue.

- void **push** (const T &t)

  Places a new Object at the Tail of the queue.

- void **enqueueFront** (const T &t)

  Places a new Object at the front of the queue.

- T **pop** ()

  Removes and returns the element that is at the Head of the queue.

- size_t **size** () const

  *Gets the Number of elements currently in the **Queue** (p. 2500).*

- bool **empty** () const

  *Checks if this **Queue** (p. 2500) is currently empty.*

- virtual std::vector< T > **toArray** () const
- void **reverse** (**StlQueue**< T > &target) const

  Reverses the order of the contents of this queue and stores them in the target queue.

- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

  Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

- T & **getSafeValue** ()

  Fetch a reference to the safe value this object will return when there is nothing to fetch from the queue.

6.593.1 Detailed Description

template<typename T> class decaf::util::StlQueue< T >

The **Queue** (p. 2500) class accepts messages with an psuh(m) command where m is the message to be queued. It destructively returns the message with **pop()** (p. 2872). **pop()** (p. 2872) returns messages in the order they were enqueued.

Queue (p. 2500) is implemented with an instance of the STL queue object. The interface is essentially the same as that of the STL queue except that the pop method actually reaturns a reference to the element popped. This frees the app from having to call the `front` method before calling pop.

Queue<string> sq; // make a queue to hold string messages sq.push(s); // enqueues a message m string s = sq.pop(); // dequeues a message

= DESIGN CONSIDERATIONS

The **Queue** (p. 2500) class inherits from the Synchronizable interface and provides methods for locking and unlocking this queue as well as waiting on this queue. In a multi-threaded app this can allow for multiple threads to be reading from and writing to the same **Queue** (p. 2500).

Clients should consider that in a multiple threaded app it is possible that items could be placed on the queue faster than you are taking them off, so protection should be placed in your polling loop to ensure that you don't get stuck there.

6.593.2 Constructor & Destructor Documentation

6.593.2.1 template<typename T> decaf::util::StlQueue< T >::StlQueue () [inline]

6.593.2.2 template<typename T> virtual decaf::util::StlQueue< T >::~StlQueue () [inline, virtual]

6.593.3 Member Function Documentation

6.593.3.1 template<typename T> const T& decaf::util::StlQueue< T >::back () const [inline]

Returns a Reference to the element at the tail of the queue.

Returns:

reference to a queue type object or (safe)

References decaf::util::StlQueue< T >::getSafeValue().

6.593.3.2 template<typename T> T& decaf::util::StlQueue< T >::back () [inline]

Returns a Reference to the element at the tail of the queue.

Returns:

reference to a queue type object or (safe)

References decaf::util::StlQueue< T >::getSafeValue().

6.593.3.3 template<typename T> void decaf::util::StlQueue< T >::clear () [inline]

Empties this queue.

6.593.3.4 template<typename T> bool decaf::util::StlQueue< T >::empty () const [inline]

Checks if this **Queue** (p. 2500) is currently empty.

Returns:

boolean indicating queue emptiness

6.593.3.5 template<typename T> void decaf::util::StlQueue< T >::enqueueFront (const T & t) [inline]

Places a new Object at the front of the queue.

Parameters:

t - **Queue** (p. 2500) Object Type reference.

6.593.3.6 template<typename T> const T& decaf::util::StlQueue< T >::front () const [inline]

Returns a Reference to the element at the head of the queue.

Returns:

reference to a queue type object or (safe)

References decaf::util::StlQueue< T >::getSafeValue().

6.593.3.7 template<typename T> T& decaf::util::StlQueue< T >::front () [inline]

Returns a Reference to the element at the head of the queue.

Returns:

reference to a queue type object or (safe)

References decaf::util::StlQueue< T >::getSafeValue().

6.593.3.8 template<typename T> T& decaf::util::StlQueue< T >::getSafeValue () [inline]

Fetch a reference to the safe value this object will return when there is nothing to fetch from the queue.

Returns:

Reference to this Queues safe object

Referenced by decaf::util::StlQueue< T >::back(), decaf::util::StlQueue< T >::front(), and decaf::util::StlQueue< T >::pop().

6.593.3.9 template<typename T> Iterator<T>* decaf::util::StlQueue< T >::iterator () [inline]

Gets an **Iterator** (p. 1789) over this **Queue** (p. 2500).

Returns:

new iterator pointer that is owned by the caller.

6.593.3.10 template<typename T> virtual void decaf::util::StlQueue< T >::lock () [inline, virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

References decaf::util::concurrent::Mutex::lock().

6.593.3.11 template<typename T> virtual void decaf::util::StlQueue< T >::notify () [inline, virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

References decaf::util::concurrent::Mutex::notify().

6.593.3.12 template<typename T> virtual void decaf::util::StlQueue< T >::notifyAll () [inline, virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

References decaf::util::concurrent::Mutex::notifyAll().

6.593.3.13 template<typename T> T decaf::util::StlQueue< T >::pop () [inline]

Removes and returns the element that is at the Head of the queue.

Returns:

reference to a queue type object or (safe)

References decaf::util::StlQueue< T >::getSafeValue().

6.593.3.14 template<typename T> void decaf::util::StlQueue< T >::push (const T & *t*) [inline]

Places a new Object at the Tail of the queue.

Parameters:

t - **Queue** (p. 2500) Object Type reference.

6.593.3.15 template<typename T> void decaf::util::StlQueue< T >::reverse (StlQueue< T > & *target*) const [inline]

Reverses the order of the contents of this queue and stores them in the target queue.

Parameters:

target - The target queue that will receive the contents of this queue in reverse order.

6.593.3.16 template<typename T> size_t decaf::util::StlQueue< T >::size () const [inline]

Gets the Number of elements currently in the **Queue** (p. 2500).

Returns:

Queue (p. 2500) Size

6.593.3.17 template<typename T> virtual std::vector<T> decaf::util::StlQueue< T >::toArray () const [inline, virtual]

Returns:

the all values in this queue as a std::vector.

6.593.3.18 template<typename T> virtual bool decaf::util::StlQueue< T >::tryLock () [inline, virtual]

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

References decaf::util::concurrent::Mutex::tryLock().

6.593.3.19 template<typename T> virtual void decaf::util::StlQueue< T >::unlock () [inline, virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

References decaf::util::concurrent::Mutex::unlock().

6.593.3.20 template<typename T> virtual void decaf::util::StlQueue< T >::wait (long long *millisecs*, int *nanos*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

References decaf::util::concurrent::Mutex::wait().

6.593.3.21 template<typename T> virtual void decaf::util::StlQueue< T >::wait (long long *millisecs*) [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

References decaf::util::concurrent::Mutex::wait().

6.593.3.22 template<typename T> virtual void decaf::util::StlQueue< T >::wait () [inline, virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

References decaf::util::concurrent::Mutex::wait().

The documentation for this class was generated from the following file:

- src/main/decaf/util/**StlQueue.h**

6.594 decaf::util::StlSet< E > Class Template Reference

Set (p. 2700) template that wraps around a std::set to provide a more user-friendly interface and to provide common functions that do not exist in std::set.

`#include <src/main/decaf/util/StlSet.h>`Inheritance diagram for decaf::util::StlSet< E >:

Data Structures

- class **ConstSetIterator**
- class **SetIterator**

Public Member Functions

- **StlSet** ()

  Default constructor - does nothing.

- **StlSet** (const **StlSet** &source)

  Copy constructor - copies the content of the given set into this one.

- **StlSet** (const **Collection**< E > &source)

  Copy constructor - copies the content of the given set into this one.

- virtual ~**StlSet** ()
- **Iterator**< E > * **iterator** ()

  Returns:

  an iterator over a set of elements of type T.

- **Iterator**< E > * **iterator** () const
- virtual bool **equals** (const **Collection**< E > &collection) const

  *Answers true if this **Collection** (p. 1000) and the one given are the same size and if each element contained in the **Collection** (p. 1000) given is equal to an element contained in this collection.*

  Parameters:

  ***collection** - The **Collection** (p. 1000) to be compared to this one.*

  Returns:

  *true if this **Collection** (p. 1000) is equal to the one given.*

- virtual void **copy** (const **Collection**< E > &collection)

  *Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000).*
  The default implementation iterates over the contents of the given collection adding each to this collection after first calling this Collection's clear method.

  Parameters:

  ***collection** The collection to mirror.*

  Exceptions:

  ***UnsupportedOperationExceptio** if this is an unmodifiable collection.*
  ***IllegalStateException** if the elements cannot be added at this time due to insertion restrictions.*

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).
  The collection will be empty after this method returns.
  This implementation iterates over this collection, removing each element using the ***Iterator.remove*** *(p. 1790) operation. Most implementations will probably choose to override this method for efficiency.*
  Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.
  Exceptions:

  UnsupportedOperationException *if the clear operation is not supported by this collection*

- virtual bool **contains** (const E &value) const

  Returns true if this collection contains the specified element.
  More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).
  Parameters:

  value *The value to check for presence in the collection.*
  Returns:

  true if there is at least one of the elements in the collection
  Exceptions:

  NullPointerException *if the* ***Collection*** *(p. 1000) contains pointers and the* ***Collection*** *(p. 1000) does not allow for NULL elements (optional check).*

  This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

- virtual bool **isEmpty** () const
- virtual int **size** () const
- virtual bool **add** (const E &value)

  Returns true if this collection changed as a result of the call.
  (Returns false if this collection does not permit duplicates and already contains the specified element.)
  Collections *(p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added.* ***Collection*** *(p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.*
  If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.
  For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.
  Parameters:

  value *The reference to the element to add to this* ***Collection*** *(p. 1000).*
  Returns:

  true if the element was added to this ***Collection*** *(p. 1000).*
  Exceptions:

  UnsupportedOperationExceptio *if this is an unmodifiable collection.*
  NullPointerException *if the* ***Collection*** *(p. 1000) is a container of pointers and does not allow NULL values.*
  IllegalArgumentException *if some property of the element prevents it from being added to this collection*

IllegalStateException *if the element cannot be added at this time due to insertion restrictions.*

- virtual bool **remove** (const E &value)

Removes a single instance of the specified element from the collection.
More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value *The reference to the element to remove from this* ***Collection*** *(*p. *1000).*

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio *if this is an unmodifiable collection.*
NullPointerException *if the* ***Collection*** *(*p. *1000) is a container of pointers and does not allow NULL values.*

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.
Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

6.594.1 Detailed Description

template<typename E> class decaf::util::StlSet< E >

Set (p. 2700) template that wraps around a std::set to provide a more user-friendly interface and to provide common functions that do not exist in std::set.

6.594.2 Constructor & Destructor Documentation

6.594.2.1 template<typename E> decaf::util::StlSet< E >::StlSet () [inline]

Default constructor - does nothing.

6.594.2.2 template<typename E> decaf::util::StlSet< E >::StlSet (const StlSet< E > & *source*) [inline]

Copy constructor - copies the content of the given set into this one.

Parameters:

source The source set.

6.594.2.3 template<typename E> decaf::util::StlSet< E >::StlSet (const Collection< E > & *source*) [inline]

Copy constructor - copies the content of the given set into this one.

Parameters:

source The source set.

6.594.2.4 template<typename E> virtual decaf::util::StlSet< E >::~StlSet () [inline, virtual]

6.594.3 Member Function Documentation

6.594.3.1 template<typename E> virtual bool decaf::util::StlSet< E >::add (const E & *value*) [inline, virtual]

Returns true if this collection changed as a result of the call.

(Returns false if this collection does not permit duplicates and already contains the specified element.)

Collections (p. 1012) that support this operation may place limitations on what elements may be added to this collection. In particular, some collections will refuse to add null elements, and others will impose restrictions on the type of elements that may be added. **Collection** (p. 1000) classes should clearly specify in their documentation any restrictions on what elements may be added.

If a collection refuses to add a particular element for any reason other than that it already contains the element, it must throw an exception (rather than returning false). This preserves the invariant that a collection always contains the specified element after this call returns.

For non-pointer values, i.e. class instances or string's the object will be copied into the collection, thus the object must support being copied, must not hide the copy constructor and assignment operator.

Parameters:

value The reference to the element to add to this **Collection** (p. 1000).

Returns:

true if the element was added to this **Collection** (p. 1000).

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

IllegalArgumentException if some property of the element prevents it from being added to this collection

IllegalStateException if the element cannot be added at this time due to insertion restrictions.

Implements **decaf::util::Collection< E >** (p. 1001).

6.594.3.2 template<typename E> virtual void decaf::util::StlSet< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation).

The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 144).

6.594.3.3 template<typename E> virtual bool decaf::util::StlSet< E >::contains (const E & *value*) const [inline, virtual]

Returns true if this collection contains the specified element.

More formally, returns true if and only if this collection contains at least one element e such that (value == NULL ? e == NULL : value == e).

Parameters:

value The value to check for presence in the collection.

Returns:

true if there is at least one of the elements in the collection

Exceptions:

NullPointerException if the **Collection** (p. 1000) contains pointers and the **Collection** (p. 1000) does not allow for NULL elements (optional check).

This implementation iterates over the elements in the collection, checking each element in turn for equality with the specified element.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 145).

6.594.3.4 template<typename E> virtual void decaf::util::StlSet< E >::copy (const Collection< E > & *collection*) [inline, virtual]

Renders this **Collection** (p. 1000) as a Copy of the given **Collection** (p. 1000).

The default implementation iterates over the contents of the given collection adding each to this collection after first calling this Collection's clear method.

Parameters:

collection The collection to mirror.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

IllegalStateException if the elements cannot be added at this time due to insertion restrictions.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 146).

Referenced by decaf::util::StlSet< Resource * >::copy(), and decaf::util::StlSet< Resource * >::StlSet().

6.594.3.5 template<typename E> virtual bool decaf::util::StlSet< E >::equals (const Collection< E > & *collection*) const [inline, virtual]

Answers true if this **Collection** (p. 1000) and the one given are the same size and if each element contained in the **Collection** (p. 1000) given is equal to an element contained in this collection.

Parameters:

collection - The **Collection** (p. 1000) to be compared to this one.

Returns:

true if this **Collection** (p. 1000) is equal to the one given.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

Referenced by decaf::util::StlSet< Resource * >::equals().

6.594.3.6 template<typename E> virtual bool decaf::util::StlSet< E >::isEmpty () const [inline, virtual]

Returns:

if the set contains any element or not, TRUE or FALSE

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

6.594.3.7 template<typename E> Iterator<E>* decaf::util::StlSet< E >::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< E >** (p. 1786).

6.594.3.8 template<typename E> Iterator<E>* decaf::util::StlSet< E >::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< E >** (p. 1787).

6.594.3.9 template<typename E> virtual bool decaf::util::StlSet< E >::remove (const E & *value*) [inline, virtual]

Removes a single instance of the specified element from the collection.

More formally, removes an element e such that (value == NULL ? e == NULL : value == e), if this collection contains one or more such elements. Returns true if this collection contained the specified element (or equivalently, if this collection changed as a result of the call).

Parameters:

value The reference to the element to remove from this **Collection** (p. 1000).

Returns:

true if the collection was changed, false otherwise.

Exceptions:

UnsupportedOperationExceptio if this is an unmodifiable collection.

NullPointerException if the **Collection** (p. 1000) is a container of pointers and does not allow NULL values.

This implementation iterates over the collection looking for the specified element. If it finds the element, it removes the element from the collection using the iterator's remove method.

Note that this implementation throws an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection contains the specified object.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 149).

6.594.3.10 template<typename E> virtual int decaf::util::StlSet< E >::size () const [inline, virtual]

Returns:

The number of elements in this set.

Implements **decaf::util::Collection< E >** (p. 1009).

The documentation for this class was generated from the following file:

- src/main/decaf/util/**StlSet.h**

6.595 activemq::wireformat::stomp::StompCommandConstants Class Reference

`#include <src/main/activemq/wireformat/stomp/StompCommandConstants.h>`

Static Public Attributes

- static const std::string **CONNECT**
- static const std::string **CONNECTED**
- static const std::string **DISCONNECT**
- static const std::string **SUBSCRIBE**
- static const std::string **UNSUBSCRIBE**
- static const std::string **MESSAGE**
- static const std::string **SEND**
- static const std::string **BEGIN**
- static const std::string **COMMIT**
- static const std::string **ABORT**
- static const std::string **ACK**
- static const std::string **ERROR_CMD**
- static const std::string **RECEIPT**
- static const std::string **HEADER_DESTINATION**
- static const std::string **HEADER_TRANSACTIONID**
- static const std::string **HEADER_CONTENTLENGTH**
- static const std::string **HEADER_SESSIONID**
- static const std::string **HEADER_RECEIPT_REQUIRED**
- static const std::string **HEADER_RECEIPTID**
- static const std::string **HEADER_MESSAGEID**
- static const std::string **HEADER_ACK**
- static const std::string **HEADER_LOGIN**
- static const std::string **HEADER_PASSWORD**
- static const std::string **HEADER_CLIENT_ID**
- static const std::string **HEADER_MESSAGE**
- static const std::string **HEADER_CORRELATIONID**
- static const std::string **HEADER_REQUESTID**
- static const std::string **HEADER_RESPONSEID**
- static const std::string **HEADER_EXPIRES**
- static const std::string **HEADER_PERSISTENT**
- static const std::string **HEADER_REPLYTO**
- static const std::string **HEADER_TYPE**
- static const std::string **HEADER_DISPATCH_ASYNC**
- static const std::string **HEADER_EXCLUSIVE**
- static const std::string **HEADER_MAXPENDINGMSGLIMIT**
- static const std::string **HEADER_NOLOCAL**
- static const std::string **HEADER_PREFETCHSIZE**
- static const std::string **HEADER_JMSPRIORITY**
- static const std::string **HEADER_CONSUMERPRIORITY**
- static const std::string **HEADER_RETROACTIVE**
- static const std::string **HEADER_SUBSCRIPTIONNAME**
- static const std::string **HEADER_OLDSUBSCRIPTIONNAME**

- static const std::string **HEADER_TIMESTAMP**
- static const std::string **HEADER_REDELIVERED**
- static const std::string **HEADER_REDELIVERYCOUNT**
- static const std::string **HEADER_SELECTOR**
- static const std::string **HEADER_ID**
- static const std::string **HEADER_SUBSCRIPTION**
- static const std::string **HEADER_TRANSFORMATION**
- static const std::string **HEADER_TRANSFORMATION_ERROR**
- static const std::string **ACK_CLIENT**
- static const std::string **ACK_AUTO**
- static const std::string **ACK_INDIVIDUAL**
- static const std::string **TEXT**
- static const std::string **BYTES**
- static const std::string **QUEUE_PREFIX**
- static const std::string **TOPIC_PREFIX**
- static const std::string **TEMPQUEUE_PREFIX**
- static const std::string **TEMPTOPIC_PREFIX**

6.595.1 Field Documentation

6.595.1.1 const std::string activemq::wireformat::stomp::StompCommandConstants::ABORT [static]

6.595.1.2 const std::string activemq::wireformat::stomp::StompCommandConstants::ACK [static]

6.595.1.3 const std::string activemq::wireformat::stomp::StompCommandConstants::ACK_AUTO [static]

6.595.1.4 const std::string activemq::wireformat::stomp::StompCommandConstants::ACK_CLIENT [static]

6.595.1.5 const std::string activemq::wireformat::stomp::StompCommandConstants::ACK_INDIVIDUAL [static]

6.595.1.6 const std::string activemq::wireformat::stomp::StompCommandConstants::BEGIN [static]

6.595.1.7 const std::string activemq::wireformat::stomp::StompCommandConstants::BYTES [static]

6.595.1.8 const std::string activemq::wireformat::stomp::StompCommandConstants::COMMIT [static]

6.595.1.9 const std::string activemq::wireformat::stomp::StompCommandConstants::CONNECT [static]

6.595.1.10 const std::string activemq::wireformat::stomp::StompCommandConstants::CONNECTED [static]

6.595.1.11 const std::string activemq::wireformat::stomp::StompCommandConstants::DISCONNECT [static]

6.595.1.12 const std::string activemq::wireformat::stomp::StompCommandConstants::ERROR_CMD [static]

6.595.1.13 const std::string activemq::wireformat::stomp::StompCommandConstants::HEADER_ACK [static]

6.595.1.14 const std::string activemq::wireformat::stomp::StompCommandConstants::HEADER_CLIENT_ID [static]

6.595.1.15 const std::string activemq::wireformat::stomp::StompCommandConstants::HEADER_CONSUMERPRIORITY [static]

- src/main/activemq/wireformat/stomp/**StompCommandConstants.h**

6.596 activemq::wireformat::stomp::StompFrame Class Reference

A Stomp-level message frame that encloses all messages to and from the broker.

`#include <src/main/activemq/wireformat/stomp/StompFrame.h>`

Public Member Functions

- **StompFrame** ()
  Default constructor.
- virtual ~**StompFrame** ()
  Destruction.
- **StompFrame** * **clone** () const
  Clonse this message exactly, returns a new instance that the caller is required to delete.
- void **copy** (const **StompFrame** *src)
  Copies the contents of the passed Frame to this one.
- void **setCommand** (const std::string &cmd)
  *Sets the command for this **stomp** (p. 90) frame.*
- const std::string & **getCommand** () const
  Accessor for this frame's command field.
- bool **hasProperty** (const std::string &name) const
  Checks if the given property is present in the Frame.
- std::string **getProperty** (const std::string &name, const std::string &fallback="") const
  Gets a property from this Frame's properties and returns it, or the default value given.
- std::string **removeProperty** (const std::string &name)
  Gets and remove the property specified, if the property is not set, this method returns the empty string.
- void **setProperty** (const std::string &name, const std::string &value)
  Sets the property given to the value specified in this Frame's Properties.
- **decaf::util::Properties** & **getProperties** ()
  Gets access to the header properties for this frame.
- const **decaf::util::Properties** & **getProperties** () const
- const std::vector< unsigned char > & **getBody** () const
  Accessor for the body data of this frame.
- std::vector< unsigned char > & **getBody** ()
  Non-const version of the body accessor.

- std::size_t **getBodyLength** () const

  Return the number of bytes contained in this frames body.

- void **setBody** (const unsigned char *bytes, std::size_t numBytes)

  Sets the body data of this frame as a byte sequence.

- void **toStream** (**decaf::io::DataOutputStream** *stream) const

  Writes this Frame to an OuputStream in the Stomp Wire Format.

- void **fromStream** (**decaf::io::DataInputStream** *stream)

  Reads a Stop Frame from a DataInputStream in the Stomp Wire format.

6.596.1 Detailed Description

A Stomp-level message frame that encloses all messages to and from the broker.

6.596.2 Constructor & Destructor Documentation

6.596.2.1 activemq::wireformat::stomp::StompFrame::StompFrame ()

Default constructor.

6.596.2.2 virtual activemq::wireformat::stomp::StompFrame::~StompFrame () [virtual]

Destruction.

6.596.3 Member Function Documentation

6.596.3.1 StompFrame* activemq::wireformat::stomp::StompFrame::clone () const

Clonse this message exactly, returns a new instance that the caller is required to delete.

Returns:

new copy of this message

6.596.3.2 void activemq::wireformat::stomp::StompFrame::copy (const StompFrame * *src*)

Copies the contents of the passed Frame to this one.

Parameters:

src - Frame to copy

6.596.3.3 void activemq::wireformat::stomp::StompFrame::fromStream (decaf::io::DataInputStream * *stream*)

Reads a Stop Frame from a DataInputStream in the Stomp Wire format.

Parameters:

stream - The stream to read the Frame from.

Exceptions:

IOException if an error occurs while writing the Frame.

6.596.3.4 std::vector<unsigned char>& activemq::wireformat::stomp::StompFrame::getBody () [inline]

Non-const version of the body accessor.

6.596.3.5 const std::vector<unsigned char>& activemq::wireformat::stomp::StompFrame::getBody () const [inline]

Accessor for the body data of this frame.

Returns:

char pointer to body data

6.596.3.6 std::size_t activemq::wireformat::stomp::StompFrame::getBodyLength () const [inline]

Return the number of bytes contained in this frames body.

Returns:

Body bytes length.

6.596.3.7 const std::string& activemq::wireformat::stomp::StompFrame::getCommand () const [inline]

Accessor for this frame's command field.

6.596.3.8 const decaf::util::Properties& activemq::wireformat::stomp::StompFrame::getProperties () const [inline]

6.596.3.9 decaf::util::Properties& activemq::wireformat::stomp::StompFrame::getProperties () [inline]

Gets access to the header properties for this frame.

Returns:

the Properties object owned by this Frame

6.596.3.10 std::string activemq::wireformat::stomp::StompFrame::getProperty (const std::string & *name*, const std::string & *fallback* = "") const [inline]

Gets a property from this Frame's properties and returns it, or the default value given.

Parameters:

name - The name of the property to lookup

fallback - The default value to return if this value isn't set

Returns:

string value of the property asked for.

6.596.3.11 bool activemq::wireformat::stomp::StompFrame::hasProperty (const std::string & *name*) const [inline]

Checks if the given property is present in the Frame.

Parameters:

name - The name of the property to check for.

6.596.3.12 std::string activemq::wireformat::stomp::StompFrame::removeProperty (const std::string & *name*) [inline]

Gets and remove the property specified, if the property is not set, this method returns the empty string.

Parameters:

name - the Name of the property to get and return.

6.596.3.13 void activemq::wireformat::stomp::StompFrame::setBody (const unsigned char * *bytes*, std::size_t *numBytes*)

Sets the body data of this frame as a byte sequence.

Parameters:

bytes The byte buffer to be set in the body.

numBytes The number of bytes in the buffer.

6.596.3.14 void activemq::wireformat::stomp::StompFrame::setCommand (const std::string & *cmd*) [inline]

Sets the command for this **stomp** (p. 90) frame.

Parameters:

cmd command The command to be set.

6.596.3.15 void activemq::wireformat::stomp::StompFrame::setProperty (const std::string & *name*, const std::string & *value*) [inline]

Sets the property given to the value specified in this Frame's Properties.

Parameters:

name - Name of the property.

value - Value to set the property to.

6.596.3.16 void activemq::wireformat::stomp::StompFrame::toStream (decaf::io::DataOutputStream * *stream*) const

Writes this Frame to an OuputStream in the Stomp Wire Format.

Parameters:

stream - The stream to write the Frame to.

Exceptions:

IOException if an error occurs while reading the Frame.

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/stomp/**StompFrame.h**

6.597 activemq::wireformat::stomp::StompHelper Class Reference

Utility Methods used when marshaling to and from StompFrame's.

`#include <src/main/activemq/wireformat/stomp/StompHelper.h>`

Public Member Functions

- **StompHelper** (**StompWireFormat** *wireFormat)
- virtual ~**StompHelper** ()
- void **convertProperties** (const **Pointer**< **StompFrame** > &frame, const **Pointer**< **Message** > &message)

  Converts the Headers in a Stomp Frame into Headers in the given Message Command.

- void **convertProperties** (const **Pointer**< **Message** > &message, const **Pointer**< **StompFrame** > &frame)

  Converts the Properties in a Message Command to Valid Headers and Properties in the ***StompFrame*** *(p. 2887).*

- **Pointer**< **ActiveMQDestination** > **convertDestination** (const std::string &destination)

  Converts from a Stomp Destination to an ActiveMQDestination.

- std::string **convertDestination** (const **Pointer**< **ActiveMQDestination** > &destination)

  Converts from a ActiveMQDestination to a Stomp Destination Name.

- std::string **convertMessageId** (const **Pointer**< **MessageId** > &messageId)

  Converts a MessageId instance to a Stomp MessageId String.

- **Pointer**< **MessageId** > **convertMessageId** (const std::string &messageId)

  Converts a Stomp MessageId string to a MessageId.

- std::string **convertConsumerId** (const **Pointer**< **ConsumerId** > &consumerId)

  Converts a ConsumerId instance to a Stomp ConsumerId String.

- **Pointer**< **ConsumerId** > **convertConsumerId** (const std::string &consumerId)

  Converts a Stomp ConsumerId string to a ConsumerId.

- std::string **convertProducerId** (const **Pointer**< **ProducerId** > &producerId)

  Converts a ProducerId instance to a Stomp ProducerId String.

- **Pointer**< **ProducerId** > **convertProducerId** (const std::string &producerId)

  Converts a Stomp ProducerId string to a ProducerId.

- std::string **convertTransactionId** (const **Pointer**< **TransactionId** > &transactionId)

  Converts a TransactionId instance to a Stomp TransactionId String.

- **Pointer**< **TransactionId** > **convertTransactionId** (const std::string &transactionId)

  Converts a Stomp TransactionId string to a TransactionId.

6.597.1 Detailed Description

Utility Methods used when marshaling to and from StompFrame's.

Since:

3.0

6.597.2 Constructor & Destructor Documentation

6.597.2.1 activemq::wireformat::stomp::StompHelper::StompHelper (StompWireFormat * *wireFormat*)

6.597.2.2 virtual activemq::wireformat::stomp::StompHelper::~StompHelper () [virtual]

6.597.3 Member Function Documentation

6.597.3.1 Pointer<ConsumerId> activemq::wireformat::stomp::StompHelper::convertConsumerId (const std::string & *consumerId*)

Converts a Stomp ConsumerId string to a ConsumerId.

Parameters:

consumerId - the String Consumer Id to convert.

Returns:

Pointer to a new ConsumerId.

6.597.3.2 std::string activemq::wireformat::stomp::StompHelper::convertConsumerId (const Pointer< ConsumerId > & *consumerId*)

Converts a ConsumerId instance to a Stomp ConsumerId String.

Parameters:

consumerId - the Consumer instance to convert.

Returns:

a Stomp Consumer Id String.

6.597.3.3 std::string activemq::wireformat::stomp::StompHelper::convertDestination (const Pointer< ActiveMQDestination > & *destination*)

Converts from a ActiveMQDestination to a Stomp Destination Name.

Parameters:

destination - The ActiveMQDestination to Convert

Returns:

the Stomp String name that defines the destination.

6.597.3.4 Pointer<ActiveMQDestination> activemq::wireformat::stomp::StompHelper::convertDestination (const std::string & *destination*)

Converts from a Stomp Destination to an ActiveMQDestination.

Parameters:

destination - The Stomp Destination name string.

Returns:

Pointer to a new ActiveMQDestination.

6.597.3.5 Pointer<MessageId> activemq::wireformat::stomp::StompHelper::convertMessageId (const std::string & *messageId*)

Converts a Stomp MessageId string to a MessageId.

Parameters:

messageId - the String message Id to convert.

Returns:

Pointer to a new MessageId.

6.597.3.6 std::string activemq::wireformat::stomp::StompHelper::convertMessageId (const Pointer< MessageId > & *messageId*)

Converts a MessageId instance to a Stomp MessageId String.

Parameters:

messageId - the MessageId instance to convert.

Returns:

a Stomp Message Id String.

6.597.3.7 Pointer<ProducerId> activemq::wireformat::stomp::StompHelper::convertProducerId (const std::string & *producerId*)

Converts a Stomp ProducerId string to a ProducerId.

Parameters:

producerId - the String Producer Id to convert.

Returns:

Pointer to a new ProducerId.

6.597.3.8 std::string activemq::wireformat::stomp::StompHelper::convertProducerId (const Pointer< ProducerId > & *producerId*)

Converts a ProducerId instance to a Stomp ProducerId String.

Parameters:

producerId - the Producer instance to convert.

Returns:

a Stomp Producer Id String.

6.597.3.9 void activemq::wireformat::stomp::StompHelper::convertProperties (const Pointer< Message > & *message*, const Pointer< StompFrame > & *frame*)

Converts the Properties in a Message Command to Valid Headers and Properties in the **StompFrame** (p. 2887).

Parameters:

message - The message to move the Headers to.

frame - The frame to extract headers from.

6.597.3.10 void activemq::wireformat::stomp::StompHelper::convertProperties (const Pointer< StompFrame > & *frame*, const Pointer< Message > & *message*)

Converts the Headers in a Stomp Frame into Headers in the given Message Command.

Parameters:

frame - The frame to extract headers from.

message - The message to move the Headers to.

6.597.3.11 Pointer<TransactionId> activemq::wireformat::stomp::StompHelper::convertTransactionId (const std::string & *transactionId*)

Converts a Stomp TransactionId string to a TransactionId.

Parameters:

transactionId - the String Transaction Id to convert.

Returns:

Pointer to a new TransactionId.

6.597.3.12 std::string activemq::wireformat::stomp::StompHelper::convertTransactionId (const Pointer< TransactionId > & *transactionId*)

Converts a TransactionId instance to a Stomp TransactionId String.

Parameters:

transactionId - the Transaction instance to convert.

Returns:

a Stomp Transaction Id String.

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/stomp/**StompHelper.h**

6.598 activemq::wireformat::stomp::StompWireFormat Class Reference

`#include <src/main/activemq/wireformat/stomp/StompWireFormat.h>`Inheritance diagram for activemq::wireformat::stomp::StompWireFormat:

Public Member Functions

- **StompWireFormat** ()
- virtual ~**StompWireFormat** ()
- virtual void **marshal** (const **Pointer**< **commands::Command** > command, const **activemq::transport::Transport** *transport, **decaf::io::DataOutputStream** *out)

  Stream based marshaling of a Command, this method blocks until the entire Command has been written out to the output stream.

- virtual **Pointer**< **commands::Command** > **unmarshal** (const **activemq::transport::Transport** *transport, **decaf::io::DataInputStream** *in)

  Stream based un-marshaling, blocks on reads on the input stream until a complete command has been read and unmarshaled into the correct form.

- virtual void **setVersion** (int version AMQCPP_UNUSED)

  Set the Version.

- virtual int **getVersion** () const

  Get the Version.

- std::string **getTopicPrefix** () const

  Gets the prefix used to address Topics.

- void **setTopicPrefix** (const std::string &prefix)

  Sets the prefix used to address Topics.

- std::string **getQueuePrefix** () const

  Gets the prefix used to address Queues.

- void **setQueuePrefix** (const std::string &prefix)

  Sets the prefix used to address Queues.

- std::string **getTempTopicPrefix** () const

  Gets the prefix used to address Temporary Topics.

- void **setTempTopicPrefix** (const std::string &prefix)

  Sets the prefix used to address Temporary Topics.

- std::string **getTempQueuePrefix** () const

  Gets the prefix used to address Temporary Queues.

- void **setTempQueuePrefix** (const std::string &prefix)

Sets the prefix used to address Temporary Queues.

- virtual bool **inReceive** () const

  Is there a Message being unmarshaled?

- virtual bool **hasNegotiator** () const

  *Returns true if this **WireFormat** (p. 3211) has a Negotiator that needs to wrap the Transport that uses it.*

- virtual **Pointer< transport::Transport > createNegotiator** (const **Pointer< transport::Transport >** transport)

  If the Transport Provides a Negotiator this method will create and return a news instance of the Negotiator.

6.598.1 Constructor & Destructor Documentation

6.598.1.1 activemq::wireformat::stomp::StompWireFormat::StompWireFormat ()

6.598.1.2 virtual activemq::wireformat::stomp::StompWireFormat::~StompWireFormat () [virtual]

6.598.2 Member Function Documentation

6.598.2.1 virtual Pointer<transport::Transport> activemq::wireformat::stomp::StompWireFormat::createNegotiator (const Pointer< transport::Transport > *transport*) [virtual]

If the Transport Provides a Negotiator this method will create and return a news instance of the Negotiator.

Returns:

new instance of a **WireFormatNegotiator** (p. 3231).

Exceptions:

UnsupportedOperationException if the **WireFormat** (p. 3211) doesn't have a Negotiator.

Implements **activemq::wireformat::WireFormat** (p. 3212).

6.598.2.2 std::string activemq::wireformat::stomp::StompWireFormat::getQueuePrefix () const

Gets the prefix used to address Queues.

Returns:

the string prefix used to address Queues.

6.598.2.3 std::string activemq::wireformat::stomp::StompWireFormat::getTempQueuePrefix () const

Gets the prefix used to address Temporary Queues.

Returns:

the string prefix used to address Temporary Queues.

6.598.2.4 std::string activemq::wireformat::stomp::StompWireFormat::getTempTopicPrefix () const

Gets the prefix used to address Temporary Topics.

Returns:

the string prefix used to address Temporary Topics.

6.598.2.5 std::string activemq::wireformat::stomp::StompWireFormat::getTopicPrefix () const

Gets the prefix used to address Topics.

Returns:

the string prefix used to address Topics.

6.598.2.6 virtual int activemq::wireformat::stomp::StompWireFormat::getVersion () const [inline, virtual]

Get the Version.

Returns:

the version of the wire format

Implements **activemq::wireformat::WireFormat** (p. 3212).

6.598.2.7 virtual bool activemq::wireformat::stomp::StompWireFormat::hasNegotiator () const [inline, virtual]

Returns true if this **WireFormat** (p. 3211) has a Negotiator that needs to wrap the Transport that uses it.

Returns:

true if the **WireFormat** (p. 3211) provides a Negotiator.

Implements **activemq::wireformat::WireFormat** (p. 3212).

6.598.2.8 virtual bool activemq::wireformat::stomp::StompWireFormat::inReceive () const [inline, virtual]

Is there a Message being unmarshaled?

Returns:

true while in the doUnmarshal method.

Implements **activemq::wireformat::WireFormat** (p. 3213).

6.598.2.9 virtual void activemq::wireformat::stomp::StompWireFormat::marshal (const Pointer< commands::Command > *command*, const activemq::transport::Transport * *transport*, decaf::io::DataOutputStream * *out*) [virtual]

Stream based marshaling of a Command, this method blocks until the entire Command has been written out to the output stream.

Parameters:

command The Command to Marshal to the output stream.

transport *(p. 72)* The Transport that initiated this marshal call.

out The output stream to write the command to.

Exceptions:

IOException

Implements **activemq::wireformat::WireFormat** (p. 3213).

6.598.2.10 void activemq::wireformat::stomp::StompWireFormat::setQueuePrefix (const std::string & *prefix*)

Sets the prefix used to address Queues.

Parameters:

prefix The prefix to use.

6.598.2.11 void activemq::wireformat::stomp::StompWireFormat::setTempQueuePrefix (const std::string & *prefix*)

Sets the prefix used to address Temporary Queues.

Parameters:

prefix The prefix to use.

6.598.2.12 void activemq::wireformat::stomp::StompWireFormat::setTempTopicPrefix (const std::string & *prefix*)

Sets the prefix used to address Temporary Topics.

Parameters:

prefix The prefix to use.

6.598.2.13 void activemq::wireformat::stomp::StompWireFormat::setTopicPrefix (const std::string & *prefix*)

Sets the prefix used to address Topics.

Parameters:

prefix The prefix to use.

6.598.2.14 virtual void activemq::wireformat::stomp::StompWireFormat::setVersion (int version *AMQCPP_UNUSED*) [inline, virtual]

Set the Version.

Parameters:

the version of the wire format

Implements **activemq::wireformat::WireFormat** (p. 3213).

6.598.2.15 virtual Pointer<commands::Command> activemq::wireformat::stomp::StompWireFormat::unmarshal (const activemq::transport::Transport * *transport*, decaf::io::DataInputStream * *in*) [virtual]

Stream based un-marshaling, blocks on reads on the input stream until a complete command has been read and unmarshaled into the correct form. Returns a Pointer to the newly unmarshaled Command.

Parameters:

transport (p. 72) - Pointer to the **transport** (p. 72) that is making this request.

in - the input stream to read the command from.

Returns:

the newly marshaled Command, caller owns the pointer

Exceptions:

IOException

Implements **activemq::wireformat::WireFormat** (p. 3213).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/stomp/**StompWireFormat.h**

6.599 activemq::wireformat::stomp::StompWireFormatFactory Class Reference

Factory used to create the Stomp Wire Format instance.

`#include <src/main/activemq/wireformat/stomp/StompWireFormatFactory.h>`Inheritance diagram for activemq::wireformat::stomp::StompWireFormatFactory:

Public Member Functions

- **StompWireFormatFactory** ()
- virtual ~**StompWireFormatFactory** ()
- virtual **Pointer< WireFormat >** **createWireFormat** (const **decaf::util::Properties** &properties)

  *Creates a new **WireFormat** (p. 3211) Object passing it a set of properties from which it can obtain any optional settings.*

6.599.1 Detailed Description

Factory used to create the Stomp Wire Format instance.

6.599.2 Constructor & Destructor Documentation

6.599.2.1 activemq::wireformat::stomp::StompWireFormatFactory::StompWireFormatFactory () [inline]

6.599.2.2 virtual activemq::wireformat::stomp::StompWireFormatFactory::~StompWireFormatFactory () [inline, virtual]

6.599.3 Member Function Documentation

6.599.3.1 virtual Pointer<WireFormat> activemq::wireformat::stomp::StompWireFormatFactory::createWireFormat (const decaf::util::Properties & *properties*) [virtual]

Creates a new **WireFormat** (p. 3211) Object passing it a set of properties from which it can obtain any optional settings.

Parameters:

properties - the Properties for this **WireFormat** (p. 3211)

Implements **activemq::wireformat::WireFormatFactory** (p. 3215).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/stomp/**StompWireFormatFactory.h**

6.600 cms::Stoppable Class Reference

Interface for a class that implements the stop method.

`#include <src/main/cms/Stoppable.h>`Inheritance diagram for cms::Stoppable:

Public Member Functions

- virtual ~**Stoppable** ()
- virtual void **stop** ()=0

  Stops this service.

6.600.1 Detailed Description

Interface for a class that implements the stop method. An object that implements this interface implies that it will halt all operations that result in events being propagated to external users, internally the Object can continue to process data but not events will be generated to clients and methods that return data will not return valid results until the object is started again.

Since:

1.0

6.600.2 Constructor & Destructor Documentation

6.600.2.1 virtual cms::Stoppable::~Stoppable () `[virtual]`

6.600.3 Member Function Documentation

6.600.3.1 virtual void cms::Stoppable::stop () `[pure virtual]`

Stops this service.

Exceptions:

CMSException *(*p. ***973***) - if an internal error occurs while stopping the Service.

Implemented in **activemq::cmsutil::CachedConsumer** (p. 869), **activemq::cmsutil::PooledSession** (p. 2377), **activemq::core::ActiveMQConnection** (p. 265), **activemq::core::ActiveMQConsumer** (p. 302), **activemq::core::ActiveMQSession** (p. 438), **activemq::core::kernels::ActiveMQConsumerKernel** (p. 317), and **activemq::core::kernels::ActiveMQSessionKernel** (p. 465).

Referenced by activemq::cmsutil::PooledSession::stop(), and activemq::cmsutil::CachedConsumer::stop().

The documentation for this class was generated from the following file:

- src/main/cms/**Stoppable.h**

6.601 decaf::util::logging::StreamHandler Class Reference

Stream based **logging** (p. 134) **Handler** (p. 1577).

`#include <src/main/decaf/util/logging/StreamHandler.h>`Inheritance diagram for decaf::util::logging::StreamHandler:

Public Member Functions

- **StreamHandler** ()

  *Create a **StreamHandler** (p. 2904), with no current output stream.*

- **StreamHandler** (**decaf::io::OutputStream** *stream, **Formatter** *formatter)

  *Create a **StreamHandler** (p. 2904), with no current output stream.*

- virtual ~**StreamHandler** ()
- virtual void **close** ()

  Close the current output stream.

- virtual void **flush** ()

  Flush the Handler's output, clears any buffers.

- virtual void **publish** (const **LogRecord** &record)

  *Publish the Log Record to this **Handler** (p. 1577).*

- virtual bool **isLoggable** (const **LogRecord** &record) const

  *Check if this **Handler** (p. 1577) would actually log a given **LogRecord** (p. 1947).*

Protected Member Functions

- virtual void **setOuputStream** (**decaf::io::OutputStream** *stream)

  Change the output stream.

- void **close** (bool closeStream)

  Closes this handler, but the underlying output stream is only closed if closeStream is true.

6.601.1 Detailed Description

Stream based **logging** (p. 134) **Handler** (p. 1577). This is primarily intended as a base class or support class to be used in implementing other **logging** (p. 134) Handlers.

LogRecords are published to a given `decaf::io::OutputStream` (p. 2333).

Configuration: By default each **StreamHandler** (p. 2904) is initialized using the following **LogManager** (p. 1941) configuration properties. If properties are not defined (or have invalid values) then the specified default values are used.

* decaf.util.logging.StreamHandler.level specifies the default level for the **Handler** (p. 1577) (defaults to **Level.INFO** (p. 1850)). * decaf.util.logging.StreamHandler.filter specifies the name of a **Filter** (p. 1507) class to use (defaults to no **Filter** (p. 1507)). * decaf.util.logging.StreamHandler.formatter specifies the name of a **Formatter** (p. 1556) class to use (defaults to **decaf.util.logging.SimpleFormatter** (p. 2744)).

Since:

1.0

6.601.2 Constructor & Destructor Documentation

6.601.2.1 decaf::util::logging::StreamHandler::StreamHandler ()

Create a **StreamHandler** (p. 2904), with no current output stream.

6.601.2.2 decaf::util::logging::StreamHandler::StreamHandler (decaf::io::OutputStream * *stream*, Formatter * *formatter*)

Create a **StreamHandler** (p. 2904), with no current output stream.

6.601.2.3 virtual decaf::util::logging::StreamHandler::~StreamHandler () [virtual]

6.601.3 Member Function Documentation

6.601.3.1 void decaf::util::logging::StreamHandler::close (bool *closeStream*) [protected]

Closes this handler, but the underlying output stream is only closed if closeStream is true.

Parameters:

closeStream whether to close the underlying output stream.

6.601.3.2 virtual void decaf::util::logging::StreamHandler::close () [virtual]

Close the current output stream. The close method will perform a flush and then close the **Handler** (p. 1577). After close has been called this **Handler** (p. 1577) should no longer be used. Method calls may either be silently ignored or may throw runtime exceptions.

Exceptions:

IOException if an I/O error occurs.

Implements **decaf::io::Closeable** (p. 961).

Reimplemented in **decaf::util::logging::ConsoleHandler** (p. 1147).

6.601.3.3 virtual void decaf::util::logging::StreamHandler::flush () [virtual]

Flush the Handler's output, clears any buffers.

Implements **decaf::util::logging::Handler** (p. 1578).

6.601.3.4 virtual bool decaf::util::logging::StreamHandler::isLoggable (const LogRecord & *record*) const [virtual]

Check if this **Handler** (p. 1577) would actually log a given **LogRecord** (p. 1947).

Parameters:

record `LogRecord (p. 1947)` to check

Returns:

true if the record can be logged with current settings.

Reimplemented from **decaf::util::logging::Handler** (p. 1579).

6.601.3.5 virtual void decaf::util::logging::StreamHandler::publish (const LogRecord & *record*) [virtual]

Publish the Log Record to this **Handler** (p. 1577).

Parameters:

record The `LogRecord (p. 1947)` to Publish

Implements **decaf::util::logging::Handler** (p. 1579).

Reimplemented in **decaf::util::logging::ConsoleHandler** (p. 1148).

6.601.3.6 virtual void decaf::util::logging::StreamHandler::setOuputStream (decaf::io::OutputStream * *stream*) [protected, virtual]

Change the output stream. If there is a current output stream then the Formatter's tail string is written and the stream is flushed and closed. Then the output stream is replaced with the new output stream.

Parameters:

stream The new output stream. May not be NULL.

Exceptions:

NullPointerException if the passed stream is NULL.

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**StreamHandler.h**

6.602 cms::StreamMessage Class Reference

Interface for a **StreamMessage** (p. 2907).

`#include <src/main/cms/StreamMessage.h>`Inheritance diagram for cms::StreamMessage:

Public Member Functions

- virtual ~**StreamMessage** ()
- virtual **ValueType getNextValueType** () const =0

  *Returns the value type for the element in the **StreamMessage** (p. 2907).*

- virtual bool **readBoolean** () const =0

  Reads a Boolean from the Stream message stream.

- virtual void **writeBoolean** (bool value)=0

  Writes a boolean to the Stream message stream as a 1-byte value.

- virtual unsigned char **readByte** () const =0

  Reads a Byte from the Stream message stream.

- virtual void **writeByte** (unsigned char value)=0

  Writes a byte to the Stream message stream as a 1-byte value.

- virtual int **readBytes** (std::vector< unsigned char > &value) const =0

  Reads a byte array from the Stream message stream.

- virtual void **writeBytes** (const std::vector< unsigned char > &value)=0

  Writes a byte array to the Stream message stream using the vector size as the number of bytes to write.

- virtual int **readBytes** (unsigned char *buffer, int length) const =0

  Reads a portion of the Stream message stream.

- virtual void **writeBytes** (const unsigned char *value, int offset, int length)=0

  Writes a portion of a byte array to the Stream message stream.

- virtual char **readChar** () const =0

  Reads a Char from the Stream message stream.

- virtual void **writeChar** (char value)=0

  Writes a char to the Stream message stream as a 1-byte value.

- virtual float **readFloat** () const =0

  Reads a 32 bit float from the Stream message stream.

- virtual void **writeFloat** (float value)=0

  Writes a float to the Stream message stream as a 4 byte value.

- virtual double **readDouble** () const =0

  Reads a 64 bit double from the Stream message stream.

- virtual void **writeDouble** (double value)=0

  Writes a double to the Stream message stream as a 8 byte value.

- virtual short **readShort** () const =0

  Reads a 16 bit signed short from the Stream message stream.

- virtual void **writeShort** (short value)=0

  Writes a signed short to the Stream message stream as a 2 byte value.

- virtual unsigned short **readUnsignedShort** () const =0

  Reads a 16 bit unsigned short from the Stream message stream.

- virtual void **writeUnsignedShort** (unsigned short value)=0

  Writes a unsigned short to the Stream message stream as a 2 byte value.

- virtual int **readInt** () const =0

  Reads a 32 bit signed integer from the Stream message stream.

- virtual void **writeInt** (int value)=0

  Writes a signed int to the Stream message stream as a 4 byte value.

- virtual long long **readLong** () const =0

  Reads a 64 bit long from the Stream message stream.

- virtual void **writeLong** (long long value)=0

  Writes a long long to the Stream message stream as a 8 byte value.

- virtual std::string **readString** () const =0

  Reads an ASCII String from the Stream message stream.

- virtual void **writeString** (const std::string &value)=0

  Writes an ASCII String to the Stream message stream.

- virtual void **reset** ()=0

  Puts the message body in read-only mode and repositions the stream of bytes to the beginning.

6.602.1 Detailed Description

Interface for a **StreamMessage** (p. 2907). The stream Messages provides a **Message** (p. 2077) type whose body is a stream of self describing primitive types. The primitive values are read and written using accessors specific to the given types.

StreamMessage (p. 2907) objects support the following conversion table. The marked cases must be supported. The unmarked cases must throw a **CMSException** (p. 973). The string-to-primitive conversions may throw a runtime exception if the primitive's valueOf() method does not accept it as a valid String representation of the primitive.

A value written as the row type can be read as the column type.

	boolean	byte	short	char	int	long	float	double	String	byte[]
boolean	X								X	
byte		X	X		X	X			X	
short			X		X	X			X	
char				X					X	
int					X	X			X	
long						X			X	
float							X	X	X	
double								X	X	
String	X	X	X		X	X	X	X	X	
byte[]										X

Since:

1.3

6.602.2 Constructor & Destructor Documentation

6.602.2.1 virtual cms::StreamMessage::~StreamMessage () [virtual]

6.602.3 Member Function Documentation

6.602.3.1 virtual ValueType cms::StreamMessage::getNextValueType () const [pure virtual]

Returns the value type for the element in the **StreamMessage** (p. 2907). The CMS provider should translate all internal type identifiers into the CMS Value types returning UNKNOWN_TYPE for any specialized types not directly supported in the CMS API. The call can fail if the **StreamMessage** (p. 2907) is currently in the middle of a ready of a Byte array.

Returns:

The ValueType contained in the next message element.

Exceptions:

CMSException *(p. **973**)* if no property exists that matches the requested key.

MessageEOFException *(p. **2157**)* - if unexpected end of message stream has been reached.

MessageFormatException *(p. **2159**)* - if the message contains invalid data.

MessageNotReadableException *(p. **2175**)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 473).

6.602.3.2 virtual bool cms::StreamMessage::readBoolean () const [pure virtual]

Reads a Boolean from the Stream message stream.

Returns:

boolean value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of message stream has been reached.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 473).

6.602.3.3 virtual unsigned char cms::StreamMessage::readByte () const [pure virtual]

Reads a Byte from the Stream message stream.

Returns:

unsigned char value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of message stream has been reached.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 473).

6.602.3.4 virtual int cms::StreamMessage::readBytes (unsigned char * *buffer*, int *length*) const [pure virtual]

Reads a portion of the Stream message stream. If the length of array value is less than the number of bytes remaining to be read from the stream, the array should be filled. A subsequent call reads the next increment, and so on.

If the number of bytes remaining in the stream is less than the length of array value, the bytes should be read into the array. The return value of the total number of bytes read will be less than the length of the array, indicating that there are no more bytes left to be read from the stream. The next read of the stream returns -1.

If length is negative, or length is greater than the length of the array value, then an **CMSException** (p. 973) is thrown. No bytes will be read from the stream for this exception case.

Parameters:

buffer the buffer into which the data is read

length the number of bytes to read; must be less than or equal to value.length

Returns:

the total number of bytes read into the buffer, or -1 if there is no more data because the end of the stream has been reached

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.

MessageEOFException *(*p. ***2157****)* - if unexpected end of message stream has been reached.

MessageFormatException *(*p. ***2159****)* - if this type conversion is invalid.

MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 474).

6.602.3.5 virtual int cms::StreamMessage::readBytes (std::vector< unsigned char > & *value*) const [pure virtual]

Reads a byte array from the Stream message stream. If the length of vector value is less than the number of bytes remaining to be read from the stream, the vector should be filled. A subsequent call reads the next increment, and so on.

If the number of bytes remaining in the stream is less than the length of vector value, the bytes should be read into the vector. The return value of the total number of bytes read will be less than the length of the vector, indicating that there are no more bytes left to be read from the stream. The next read of the stream returns -1.

Parameters:

value buffer to place data in

Returns:

the total number of bytes read into the buffer, or -1 if there is no more data because the end of the stream has been reached

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.

MessageEOFException *(*p. ***2157****)* - if unexpected end of message stream has been reached.

MessageFormatException *(*p. ***2159****)* - if this type conversion is invalid.

MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 474).

6.602.3.6 virtual char cms::StreamMessage::readChar () const [pure virtual]

Reads a Char from the Stream message stream.

Returns:

char value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of message stream has been reached.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 475).

6.602.3.7 virtual double cms::StreamMessage::readDouble () const [pure virtual]

Reads a 64 bit double from the Stream message stream.

Returns:

double value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of message stream has been reached.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 475).

6.602.3.8 virtual float cms::StreamMessage::readFloat () const [pure virtual]

Reads a 32 bit float from the Stream message stream.

Returns:

double value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of message stream has been reached.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 476).

6.602.3.9 virtual int cms::StreamMessage::readInt () const [pure virtual]

Reads a 32 bit signed integer from the Stream message stream.

Returns:

int value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of message stream has been reached.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 476).

6.602.3.10 virtual long long cms::StreamMessage::readLong () const [pure virtual]

Reads a 64 bit long from the Stream message stream.

Returns:

long long value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of message stream has been reached.

MessageFormatException (p. ***2159***) - if this type conversion is invalid.

MessageNotReadableException (p. ***2175***) - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 476).

6.602.3.11 virtual short cms::StreamMessage::readShort () const [pure virtual]

Reads a 16 bit signed short from the Stream message stream.

Returns:

short value from stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to read the message due to some internal error.

MessageEOFException (p. ***2157***) - if unexpected end of message stream has been reached.

MessageFormatException *(*p. ***2159****)* - if this type conversion is invalid.
MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 477).

6.602.3.12 virtual std::string cms::StreamMessage::readString () const [pure virtual]

Reads an ASCII String from the Stream message stream.

Returns:

String from stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.
MessageEOFException *(*p. ***2157****)* - if unexpected end of message stream has been reached.
MessageFormatException *(*p. ***2159****)* - if this type conversion is invalid.
MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 477).

6.602.3.13 virtual unsigned short cms::StreamMessage::readUnsignedShort () const [pure virtual]

Reads a 16 bit unsigned short from the Stream message stream.

Returns:

unsigned short value from stream

Exceptions:

CMSException *(*p. ***973****)* - if the CMS provider fails to read the message due to some internal error.
MessageEOFException *(*p. ***2157****)* - if unexpected end of message stream has been reached.
MessageFormatException *(*p. ***2159****)* - if this type conversion is invalid.
MessageNotReadableException *(*p. ***2175****)* - if the message is in write-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 477).

6.602.3.14 virtual void cms::StreamMessage::reset () [pure virtual]

Puts the message body in read-only mode and repositions the stream of bytes to the beginning.

Exceptions:

CMSException *(*p. ***973****)* - If the provider fails to perform the reset operation.
MessageFormatException *(*p. ***2159****)* - If the **Message** (p. 2077) has an invalid format.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 478).

6.602.3.15 virtual void cms::StreamMessage::writeBoolean (bool *value*) [pure virtual]

Writes a boolean to the Stream message stream as a 1-byte value. The value true is written as the value (byte)1; the value false is written as the value (byte)0.

Parameters:

value boolean to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 478).

6.602.3.16 virtual void cms::StreamMessage::writeByte (unsigned char *value*) [pure virtual]

Writes a byte to the Stream message stream as a 1-byte value.

Parameters:

value byte to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 479).

6.602.3.17 virtual void cms::StreamMessage::writeBytes (const unsigned char * *value*, int *offset*, int *length*) [pure virtual]

Writes a portion of a byte array to the Stream message stream. size as the number of bytes to write.

Parameters:

value bytes to write to the stream

offset the initial offset within the byte array

length the number of bytes to use

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 479).

6.602.3.18 virtual void cms::StreamMessage::writeBytes (const std::vector< unsigned char > & *value*) [pure virtual]

Writes a byte array to the Stream message stream using the vector size as the number of bytes to write.

Parameters:

value bytes to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 479).

6.602.3.19 virtual void cms::StreamMessage::writeChar (char *value*) [pure virtual]

Writes a char to the Stream message stream as a 1-byte value.

Parameters:

value char to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 480).

6.602.3.20 virtual void cms::StreamMessage::writeDouble (double *value*) [pure virtual]

Writes a double to the Stream message stream as a 8 byte value.

Parameters:

value double to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 480).

6.602.3.21 virtual void cms::StreamMessage::writeFloat (float *value*) [pure virtual]

Writes a float to the Stream message stream as a 4 byte value.

Parameters:

value float to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 480).

6.602.3.22 virtual void cms::StreamMessage::writeInt (int *value*) [pure virtual]

Writes a signed int to the Stream message stream as a 4 byte value.

Parameters:

value signed int to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 480).

6.602.3.23 virtual void cms::StreamMessage::writeLong (long long *value*) [pure virtual]

Writes a long long to the Stream message stream as a 8 byte value.

Parameters:

value signed long long to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 481).

6.602.3.24 virtual void cms::StreamMessage::writeShort (short *value*) [pure virtual]

Writes a signed short to the Stream message stream as a 2 byte value.

Parameters:

value signed short to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 481).

6.602.3.25 virtual void cms::StreamMessage::writeString (const std::string & *value*) [pure virtual]

Writes an ASCII String to the Stream message stream.

Parameters:

value String to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 481).

6.602.3.26 virtual void cms::StreamMessage::writeUnsignedShort (unsigned short *value*) [pure virtual]

Writes a unsigned short to the Stream message stream as a 2 byte value.

Parameters:

value unsigned short to write to the stream

Exceptions:

CMSException (p. ***973***) - if the CMS provider fails to write the message due to some internal error.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode.

Implemented in **activemq::commands::ActiveMQStreamMessage** (p. 482).

The documentation for this class was generated from the following file:

- src/main/cms/**StreamMessage.h**

6.603 decaf::lang::String Class Reference

The **String** (p. 2919) class represents an immutable sequence of chars.

`#include <src/main/decaf/lang/String.h>`Inheritance diagram for decaf::lang::String:

Public Member Functions

- **String** ()

  *Creates a new empty **String** (p. 2919) object.*

- **String** (const **String** &source)

  *Create a new **String** (p. 2919) object that represents the given STL string.*

- **String** (const std::string &source)

  *Create a new **String** (p. 2919) object that represents the given STL string.*

- **String** (const char *array, int size)

  *Create a new **String** (p. 2919) object that represents the given array of characters.*

- **String** (const char *array, int size, int offset, int length)

  *Create a new **String** (p. 2919) object that represents the given array of characters.*

- virtual ~**String** ()
- **String** & **operator**= (const **String** &)
- **String** & **operator**= (const std::string &)
- bool **isEmpty** () const
- virtual int **length** () const

  Returns:

  the length of the underlying character sequence.

- virtual char **charAt** (int index) const

  Returns the Char at the specified index so long as the index is not greater than the length of the sequence.
  Parameters:

  ***index** The position to return the char at.*
  Returns:

  the char at the given position.
  Exceptions:

  ***IndexOutOfBoundsException** if index is > than **length()** (p. 944) or negative*

- virtual **CharSequence** * **subSequence** (int start, int end) const

  *Returns a new **CharSequence** (p. 943) that is a subsequence of this sequence.*
  The subsequence starts with the char value at the specified index and ends with the char value at index end - 1. The length (in chars) of the returned sequence is end - start, so if start == end then an empty sequence is returned.
  Parameters:

  ***start** The start index, inclusive.*

end *The end index, exclusive.*

Returns:

a new ***CharSequence*** *(p. 943)*

Exceptions:

IndexOutOfBoundsException *if start or end > **length()*** *(p. 944) or start or end are negative.*

- virtual std::string **toString** () const

  Returns:

  the string representation of this ***CharSequence*** *(p. 943)*

Static Public Member Functions

- static **String valueOf** (bool value)

  Returns a ***String*** *(p. 2919) that represents the value of the given boolean value.*

- static **String valueOf** (char value)

  Returns a ***String*** *(p. 2919) that represents the value of the given char value.*

- static **String valueOf** (float value)

  Returns a ***String*** *(p. 2919) that represents the value of the given float value.*

- static **String valueOf** (double value)

  Returns a ***String*** *(p. 2919) that represents the value of the given double value.*

- static **String valueOf** (short value)

  Returns a ***String*** *(p. 2919) that represents the value of the given short value.*

- static **String valueOf** (int value)

  Returns a ***String*** *(p. 2919) that represents the value of the given integer value.*

- static **String valueOf** (long long value)

  Returns a ***String*** *(p. 2919) that represents the value of the given 64bit long value.*

6.603.1 Detailed Description

The **String** (p. 2919) class represents an immutable sequence of chars.

Since:

1.0

6.603.2 Constructor & Destructor Documentation

6.603.2.1 decaf::lang::String::String ()

Creates a new empty **String** (p. 2919) object.

6.603.2.2 decaf::lang::String::String (const String & *source*)

Create a new **String** (p. 2919) object that represents the given STL string.

Parameters:

source The string to copy into this new **String** (p. 2919) object.

6.603.2.3 decaf::lang::String::String (const std::string & *source*)

Create a new **String** (p. 2919) object that represents the given STL string.

Parameters:

source The string to copy into this new **String** (p. 2919) object.

6.603.2.4 decaf::lang::String::String (const char * *array*, int *size*)

Create a new **String** (p. 2919) object that represents the given array of characters. The method takes the size of the array as a parameter to allow for strings that are not NULL terminated, the caller can pass strlen(array) in the case where the array is properly NULL terminated.

Parameters:

array The character buffer to copy into this new **String** (p. 2919) object.

size The size of the string buffer given, in case the string is not NULL terminated.

Exceptions:

NullPointerException if the character array parameter is NULL.

IndexOutOfBoundsException if the size parameter is negative.

6.603.2.5 decaf::lang::String::String (const char * *array*, int *size*, int *offset*, int *length*)

Create a new **String** (p. 2919) object that represents the given array of characters. The method takes the size of the array as a parameter to allow for strings that are not NULL terminated, the caller can pass strlen(array) in the case where the array is properly NULL terminated.

Parameters:

array The character buffer to copy into this new **String** (p. 2919) object.

size The size of the string buffer given, in case the string is not NULL terminated.

offset The position to start copying from in the given buffer.

length The number of bytes to copy from the given buffer starting from the offset.

Exceptions:

NullPointerException if the character array parameter is NULL.

IndexOutOfBoundsException if the size, offset or length parameter is negative or if the length to copy is greater than the span of size - offset.

6.603.2.6 virtual decaf::lang::String::~String () [virtual]

6.603.3 Member Function Documentation

6.603.3.1 virtual char decaf::lang::String::charAt (int *index*) const [virtual]

Returns the Char at the specified index so long as the index is not greater than the length of the sequence.

Parameters:

index The position to return the char at.

Returns:

the char at the given position.

Exceptions:

IndexOutOfBoundsException if index is > than **length()** (p. 944) or negative

Implements **decaf::lang::CharSequence** (p. 943).

6.603.3.2 bool decaf::lang::String::isEmpty () const

Returns:

true if the length of this **String** (p. 2919) is zero.

6.603.3.3 virtual int decaf::lang::String::length () const [virtual]

Returns:

the length of the underlying character sequence.

Implements **decaf::lang::CharSequence** (p. 944).

6.603.3.4 String& decaf::lang::String::operator= (const std::string &)

6.603.3.5 String& decaf::lang::String::operator= (const String &)

6.603.3.6 virtual CharSequence* decaf::lang::String::subSequence (int *start*, int *end*) const [virtual]

Returns a new **CharSequence** (p. 943) that is a subsequence of this sequence.

The subsequence starts with the char value at the specified index and ends with the char value at index end - 1. The length (in chars) of the returned sequence is end - start, so if start == end then an empty sequence is returned.

Parameters:

start The start index, inclusive.

end The end index, exclusive.

Returns:

a new **CharSequence** (p. 943)

Exceptions:

IndexOutOfBoundsException if start or end > **length()** (p. 944) or start or end are negative.

Implements **decaf::lang::CharSequence** (p. 944).

6.603.3.7 virtual std::string decaf::lang::String::toString () const [virtual]

Returns:

the string representation of this **CharSequence** (p. 943)

Implements **decaf::lang::CharSequence** (p. 944).

6.603.3.8 static String decaf::lang::String::valueOf (long long *value*) [static]

Returns a **String** (p. 2919) that represents the value of the given 64bit long value.

Parameters:

value The value whose string representation is to be returned.

Returns:

a **String** (p. 2919) that contains the string representation of the 64 bit long value given.

6.603.3.9 static String decaf::lang::String::valueOf (int *value*) [static]

Returns a **String** (p. 2919) that represents the value of the given integer value.

Parameters:

value The value whose string representation is to be returned.

Returns:

a **String** (p. 2919) that contains the string representation of the integer value given.

6.603.3.10 static String decaf::lang::String::valueOf (short *value*) [static]

Returns a **String** (p. 2919) that represents the value of the given short value.

Parameters:

value The value whose string representation is to be returned.

Returns:

a **String** (p. 2919) that contains the string representation of the short value given.

6.603.3.11 static String decaf::lang::String::valueOf (double *value*) [static]

Returns a **String** (p. 2919) that represents the value of the given double value.

Parameters:

value The value whose string representation is to be returned.

Returns:

a **String** (p. 2919) that contains the string representation of the double value given.

6.603.3.12 static String decaf::lang::String::valueOf (float *value*) [static]

Returns a **String** (p. 2919) that represents the value of the given float value.

Parameters:

value The value whose string representation is to be returned.

Returns:

a **String** (p. 2919) that contains the string representation of the float value given.

6.603.3.13 static String decaf::lang::String::valueOf (char *value*) [static]

Returns a **String** (p. 2919) that represents the value of the given char value.

Parameters:

value The value whose string representation is to be returned.

Returns:

a **String** (p. 2919) that contains the single character value given.

6.603.3.14 static String decaf::lang::String::valueOf (bool *value*) [static]

Returns a **String** (p. 2919) that represents the value of the given boolean value.

Parameters:

value The value whose string representation is to be returned.

Returns:

"true" if the boolean is true, "false" otherwise.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**String.h**

6.604 decaf::util::StringTokenizer Class Reference

Class that allows for parsing of string based on Tokens.

`#include <src/main/decaf/util/StringTokenizer.h>`

Public Member Functions

- **StringTokenizer** (const std::string &str, const std::string &delim=" \t\n\r\f", bool returnDelims=false)

  Constructs a string tokenizer for the specified string.

- virtual ~**StringTokenizer** ()
- virtual int **countTokens** () const

  Calculates the number of times that this tokenizer's nextToken method can be called before it generates an exception.

- virtual bool **hasMoreTokens** () const

  Tests if there are more tokens available from this tokenizer's string.

- virtual std::string **nextToken** ()

  Returns the next token from this string tokenizer.

- virtual std::string **nextToken** (const std::string &delim)

  Returns the next token in this string tokenizer's string.

- virtual unsigned int **toArray** (std::vector< std::string > &array)

  Grab all remaining tokens in the String and return them in the vector that is passed in by reference.

- virtual void **reset** (const std::string &str="", const std::string &delim="", bool returnDelims=false)

  Resets the Tokenizer's position in the String to the Beginning calls to countToken and nextToken now start back at the beginning.

6.604.1 Detailed Description

Class that allows for parsing of string based on Tokens.

Since:

1.0

6.604.2 Constructor & Destructor Documentation

6.604.2.1 decaf::util::StringTokenizer::StringTokenizer (const std::string & *str*, const std::string & *delim* = " \t\n\r\f", bool *returnDelims* = false)

Constructs a string tokenizer for the specified string. All characters in the delim argument are the delimiters for separating tokens.

If the returnDelims flag is true, then the delimiter characters are also returned as tokens. Each delimiter is returned as a string of length one. If the flag is false, the delimiter characters are skipped and only serve as separators between tokens.

Note that if delim is "", this constructor does not throw an exception. However, trying to invoke other methods on the resulting **StringTokenizer** (p. 2925) may result in an Exception.

Parameters:

str - The string to tokenize

delim - String containing the delimiters

returnDelims - boolean indicating if the delimiters are returned as tokens

6.604.2.2 virtual decaf::util::StringTokenizer::~StringTokenizer () [virtual]

6.604.3 Member Function Documentation

6.604.3.1 virtual int decaf::util::StringTokenizer::countTokens () const [virtual]

Calculates the number of times that this tokenizer's nextToken method can be called before it generates an exception. The current position is not advanced.

Returns:

Count of remaining tokens

6.604.3.2 virtual bool decaf::util::StringTokenizer::hasMoreTokens () const [virtual]

Tests if there are more tokens available from this tokenizer's string.

Returns:

true if there are more tokens remaining

6.604.3.3 virtual std::string decaf::util::StringTokenizer::nextToken (const std::string & *delim*) [virtual]

Returns the next token in this string tokenizer's string. First, the set of characters considered to be delimiters by this **StringTokenizer** (p. 2925) object is changed to be the characters in the string delim. Then the next token in the string after the current position is returned. The current position is advanced beyond the recognized token. The new delimiter set remains the default after this call.

Parameters:

delim The string containing the new set of delimiters.

Returns:

next string in the token list

Exceptions:

NoSuchElementException *(p. 2247)* if there are no more tokens in this string.

6.604.3.4 virtual std::string decaf::util::StringTokenizer::nextToken () [virtual]

Returns the next token from this string tokenizer.

Returns:

string value of next token

Exceptions:

NoSuchElementException *(*p. *2247)* if there are no more tokens in this string.

6.604.3.5 virtual void decaf::util::StringTokenizer::reset (const std::string & *str* = "", const std::string & *delim* = "", bool *returnDelims* = false) [virtual]

Resets the Tokenizer's position in the String to the Beginning calls to countToken and nextToken now start back at the beginning. This allows this object to be reused, the caller need not create a new instance every time a String needs tokenizing.

∗ If set the string param will reset the string that this Tokenizer is working on. If set to "" no change is made. ∗ If set the delim param will reset the string that this Tokenizer is using to tokenizer the string. If set to "", no change is made ∗ If set the return Delims will set if this Tokenizer will return delimiters as tokens. Defaults to false.

Parameters:

str New String to tokenize or "", defaults to ""

delim New Delimiter String to use or "", defaults to ""

returnDelims Should the Tokenizer return delimiters as Tokens, default false

6.604.3.6 virtual unsigned int decaf::util::StringTokenizer::toArray (std::vector< std::string > & *array*) [virtual]

Grab all remaining tokens in the String and return them in the vector that is passed in by reference.

Parameters:

array - vector to place token strings in

Returns:

number of string placed into the vector

The documentation for this class was generated from the following file:

- src/main/decaf/util/**StringTokenizer.h**

6.605 decaf::internal::util::StringUtils Class Reference

`#include <src/main/decaf/internal/util/StringUtils.h>`

Public Member Functions

- virtual ~**StringUtils** ()

Static Public Member Functions

- static int **compareIgnoreCase** (const char *left, const char *right)

  Perform a comparison between two strings using natural ordering and ignoring case.

- static int **compare** (const char *left, const char *right)

  Perform a comparison between two strings using natural ordering case is not ignored here, so two otherwise equal string will not match if case differes.

6.605.1 Constructor & Destructor Documentation

6.605.1.1 virtual decaf::internal::util::StringUtils::~StringUtils () [inline, virtual]

6.605.2 Member Function Documentation

6.605.2.1 static int decaf::internal::util::StringUtils::compare (const char * *left*, const char * *right*) [static]

Perform a comparison between two strings using natural ordering case is not ignored here, so two otherwise equal string will not match if case differes.

Parameters:

left The left-hand string of the comparison.

right The right-hand string of the comparison.

Returns:

a negative integer, zero, or a positive integer as the specified string is greater than, equal to, or less than this String, ignoring case considerations.

6.605.2.2 static int decaf::internal::util::StringUtils::compareIgnoreCase (const char * *left*, const char * *right*) [static]

Perform a comparison between two strings using natural ordering and ignoring case.

Parameters:

left The left-hand string of the comparison.

right The right-hand string of the comparison.

Returns:

a negative integer, zero, or a positive integer as the specified string is greater than, equal to, or less than this String, ignoring case considerations.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/**StringUtils.h**

6.606 activemq::commands::SubscriptionInfo Class Reference

`#include <src/main/activemq/commands/SubscriptionInfo.h>`Inheritance diagram for activemq::commands::SubscriptionInfo:

Public Member Functions

- **SubscriptionInfo** ()
- virtual ~**SubscriptionInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **SubscriptionInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual const std::string & **getClientId** () const
- virtual std::string & **getClientId** ()
- virtual void **setClientId** (const std::string &**clientId**)
- virtual const **Pointer**< **ActiveMQDestination** > & **getDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getDestination** ()
- virtual void **setDestination** (const **Pointer**< **ActiveMQDestination** > &**destination**)
- virtual const std::string & **getSelector** () const
- virtual std::string & **getSelector** ()
- virtual void **setSelector** (const std::string &**selector**)
- virtual const std::string & **getSubcriptionName** () const
- virtual std::string & **getSubcriptionName** ()
- virtual void **setSubcriptionName** (const std::string &**subcriptionName**)
- virtual const **Pointer**< **ActiveMQDestination** > & **getSubscribedDestination** () const
- virtual **Pointer**< **ActiveMQDestination** > & **getSubscribedDestination** ()
- virtual void **setSubscribedDestination** (const **Pointer**< **ActiveMQDestination** > &**subscribedDestination**)

Static Public Attributes

- static const unsigned char **ID_SUBSCRIPTIONINFO** = 55

Protected Attributes

- std::string **clientId**
- **Pointer< ActiveMQDestination > destination**
- std::string **selector**
- std::string **subcriptionName**
- **Pointer< ActiveMQDestination > subscribedDestination**

6.606.1 Constructor & Destructor Documentation

6.606.1.1 activemq::commands::SubscriptionInfo::SubscriptionInfo ()

6.606.1.2 virtual activemq::commands::SubscriptionInfo::~SubscriptionInfo () [virtual]

6.606.2 Member Function Documentation

6.606.2.1 virtual SubscriptionInfo* activemq::commands::SubscriptionInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.606.2.2 virtual void activemq::commands::SubscriptionInfo::copyDataStructure (const DataStructure * *src*) [virtual]

6.606.2.3 virtual bool activemq::commands::SubscriptionInfo::equals (const DataStructure * *value*) const [virtual]

6.606.2.4 virtual std::string& activemq::commands::SubscriptionInfo::getClientId () [virtual]

6.606.2.5 virtual const std::string& activemq::commands::SubscriptionInfo::getClientId () const [virtual]

6.606.2.6 virtual unsigned char activemq::commands::SubscriptionInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.606.2.7 virtual Pointer<ActiveMQDestination>& activemq::commands::SubscriptionInfo::getDestination () [virtual]

6.606.2.8 virtual const Pointer<ActiveMQDestination>& activemq::commands::SubscriptionInfo::getDestination () const [virtual]

6.606.2.9 virtual std::string& activemq::commands::SubscriptionInfo::getSelector () [virtual]

6.606.2.10 virtual const std::string& activemq::commands::SubscriptionInfo::getSelector () const [virtual]

6.606.2.11 virtual std::string& activemq::commands::SubscriptionInfo::getSubcriptionName () [virtual]

6.606.2.12 virtual const std::string& activemq::commands::SubscriptionInfo::getSubcriptionName () const [virtual]

6.606.2.13 virtual Pointer<ActiveMQDestination>& activemq::commands::SubscriptionInfo::getSubscribedDestination () [virtual]

6.606.2.14 virtual const Pointer<ActiveMQDestination>& activemq::commands::SubscriptionInfo::getSubscribedDestination () const [virtual]

6.606.2.15 virtual void activemq::commands::SubscriptionInfo::setClientId (const std::string & *clientId*) [virtual]

6.606.2.16 virtual void activemq::commands::SubscriptionInfo::setDestination (const Pointer< ActiveMQDestination > & *destination*) [virtual]

6.606.2.17 virtual void activemq::commands::SubscriptionInfo::setSelector (const std::string & *selector*) [virtual]

6.606.2.18 virtual void activemq::commands::SubscriptionInfo::setSubcriptionName (const std::string & *subcriptionName*) [virtual]

6.606.2.19 virtual void activemq::commands::SubscriptionInfo::setSubscribedDestination (const Pointer< ActiveMQDestination > & *subscribedDestination*) [virtual]

6.606.2.20 virtual std::string activemq::commands::SubscriptionInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

6.606.3 Field Documentation

6.606.3.1 std::string activemq::commands::SubscriptionInfo::clientId [protected]

6.606.3.2 Pointer<ActiveMQDestination> activemq::commands::SubscriptionInfo::destination [protected]

6.606.3.3 const unsigned char activemq::commands::SubscriptionInfo::ID_SUBSCRIPTIONINFO = 55 [static]

6.606.3.4 std::string activemq::commands::SubscriptionInfo::selector [protected]

6.606.3.5 std::string activemq::commands::SubscriptionInfo::subcriptionName [protected]

6.606.3.6 Pointer<ActiveMQDestination> activemq::commands::SubscriptionInfo::subscribedDestination [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**SubscriptionInfo.h**

6.607 activemq::wireformat::openwire::marshal::generated::SubscriptionI Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **SubscriptionInfoMarshaller** (p. 2934).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/SubscriptionInfoMarshaller.h>I`
diagram for activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller:

Public Member Functions

- **SubscriptionInfoMarshaller** ()
- virtual ~**SubscriptionInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.607.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **SubscriptionInfoMarshaller** (p. 2934). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.607.2 Constructor & Destructor Documentation

6.607.2.1 activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller::Subscrip
() [inline]

6.607.2.2 virtual activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller::~Subscr
() [inline, virtual]

6.607.3 Member Function Documentation

6.607.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller::createObje
() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.607.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller::getDataStr
() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.607.3.3 virtual void activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller::looseMarsh
(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.607.3.4 virtual void activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller::looseUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.607.3.5 virtual int activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.607.3.6 virtual void activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.607.3.7 virtual void activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller::tightUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**SubscriptionInfoMarshaller.h**

6.608 decaf::util::concurrent::Synchronizable Class Reference

The interface for all synchronizable objects (that is, objects that can be locked and unlocked).

`#include <src/main/decaf/util/concurrent/Synchronizable.h>`Inheritance diagram for decaf::util::concurrent::Synchronizable:

Public Member Functions

- virtual ~**Synchronizable** ()
- virtual void **lock** ()=0

  Locks the object.

- virtual bool **tryLock** ()=0

  *Attempts to **Lock** (*p. 1911*) the object, if the lock is already held by another thread than this method returns false.*

- virtual void **unlock** ()=0

  Unlocks the object.

- virtual void **wait** ()=0

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)=0

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)=0

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()=0

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()=0

  Signals the waiters on this object that it can now wake up and continue.

6.608.1 Detailed Description

The interface for all synchronizable objects (that is, objects that can be locked and unlocked).

Since:

1.0

6.608.2 Constructor & Destructor Documentation

6.608.2.1 virtual decaf::util::concurrent::Synchronizable::~Synchronizable () [virtual]

6.608.3 Member Function Documentation

6.608.3.1 virtual void decaf::util::concurrent::Synchronizable::lock () [pure virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1501), **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2750), **decaf::internal::util::concurrent::SynchronizableImpl** (p. 2949), **decaf::io::InputStream** (p. 1697), **decaf::io::OutputStream** (p. 2336), **decaf::util::AbstractCollection< E >** (p. 148), **decaf::util::AbstractMap< K, V >** (p. 168), **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1062), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1208), **decaf::util::concurrent::Mutex** (p. 2224), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2862), **decaf::util::StlQueue< T >** (p. 2872), **decaf::util::AbstractCollection< ServiceListener * >** (p. 148), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 148), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 148), **decaf::util::AbstractCollection< Resource * >** (p. 148), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 148), **decaf::util::AbstractCollection< CompositeTask * >** (p. 148), **decaf::util::AbstractCollection< URI >** (p. 148), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 148), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 148), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 148), **decaf::util::AbstractCollection< V >** (p. 148), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 148), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 148), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 148), **decaf::util::AbstractCollection< cms::MessageProducer * >** (p. 148), **decaf::util::AbstractCollection< cms::Destination * >** (p. 148), **decaf::util::AbstractCollection< cms::Session * >** (p. 148), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 148), **decaf::util::AbstractCollection< cms::Connection * >** (p. 148), **decaf::util::AbstractCollection< K >** (p. 148), **decaf::util::AbstractMap< E, Set< E > * >** (p. 168), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1062), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1062), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2862), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2862), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2862), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2862), **decaf::util::StlMap< std::string, cms::Queue ***

> (p. 2862), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2862), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2862), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2862), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2862), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2862).

6.608.3.2 virtual void decaf::util::concurrent::Synchronizable::notify () [pure virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1501), **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2750), **decaf::internal::util::concurrent::SynchronizableImpl** (p. 2949), **decaf::io::InputStream** (p. 1698), **decaf::io::OutputStream** (p. 2336), **decaf::util::AbstractCollection< E >** (p. 148), **decaf::util::AbstractMap< K, V >** (p. 169), **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1063), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1208), **decaf::util::concurrent::Mutex** (p. 2224), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2862), **decaf::util::StlQueue< T >** (p. 2872), **decaf::util::AbstractCollection< ServiceListener * >** (p. 148), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 148), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 148), **decaf::util::AbstractCollection< Resource * >** (p. 148), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 148), **decaf::util::AbstractCollection< CompositeTask * >** (p. 148), **decaf::util::AbstractCollection< URI >** (p. 148), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 148), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 148), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 148), **decaf::util::AbstractCollection< V >** (p. 148), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 148), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 148), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 148), **decaf::util::AbstractCollection< cms::MessageProducer * >** (p. 148), **decaf::util::AbstractCollection< cms::Destination * >** (p. 148), **decaf::util::AbstractCollection< cms::Session * >** (p. 148), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 148), **decaf::util::AbstractCollection< cms::Connection * >** (p. 148), **decaf::util::AbstractCollection< K >** (p. 148), **decaf::util::AbstractMap< E, Set< E > * >** (p. 169), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1063), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1063), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1063), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1063), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2862), **decaf::util::StlMap< std::string,**

WireFormatFactory * > (p. 2862), **decaf::util::StlMap< decaf::lang::Runnable** *, **decaf::util::TimerTask** * > (p. 2862), **decaf::util::StlMap< std::string, PrimitiveValueNode** > (p. 2862), **decaf::util::StlMap< std::string, cms::Queue** * > (p. 2862), **decaf::util::StlMap< std::string, CachedConsumer** * > (p. 2862), **decaf::util::StlMap< std::string, TransportFactory** * > (p. 2862), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR** > (p. 2862), **decaf::util::StlMap< std::string, CachedProducer** * > (p. 2862), and **decaf::util::StlMap< std::string, cms::Topic** * > (p. 2862).

6.608.3.3 virtual void decaf::util::concurrent::Synchronizable::notifyAll () [pure virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1502), **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2751), **decaf::internal::util::concurrent::SynchronizableImpl** (p. 2949), **decaf::io::InputStream** (p. 1698), **decaf::io::OutputStream** (p. 2336), **decaf::util::AbstractCollection< E >** (p. 148), **decaf::util::AbstractMap< K, V >** (p. 169), **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1063), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1209), **decaf::util::concurrent::Mutex** (p. 2224), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2862), **decaf::util::StlQueue< T >** (p. 2872), **decaf::util::AbstractCollection< ServiceListener** * > (p. 148), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 148), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 148), **decaf::util::AbstractCollection< Resource** * > (p. 148), **decaf::util::AbstractCollection< cms::MessageConsumer** * > (p. 148), **decaf::util::AbstractCollection< CompositeTask** * > (p. 148), **decaf::util::AbstractCollection< URI >** (p. 148), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 148), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 148), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 148), **decaf::util::AbstractCollection< V >** (p. 148), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 148), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 148), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 148), **decaf::util::AbstractCollection< cms::MessageProducer** * > (p. 148), **decaf::util::AbstractCollection< cms::Destination** * > (p. 148), **decaf::util::AbstractCollection< cms::Session** * > (p. 148), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 148), **decaf::util::AbstractCollection< cms::Connection** * > (p. 148), **decaf::util::AbstractCollection< K >** (p. 148), **decaf::util::AbstractMap< E, Set< E >** * > (p. 169), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR** > (p. 1063), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR** > (p. 1063), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR** > (p. 1063),

decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR > (p. 1063), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2862), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2862), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2862), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2862), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2862), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2862), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2862), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2862), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2862), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2862).

6.608.3.4 virtual bool decaf::util::concurrent::Synchronizable::tryLock () [pure virtual]

Attempts to **Lock** (p. 1911) the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1503), **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2752), **decaf::internal::util::concurrent::SynchronizableImpl** (p. 2950), **decaf::io::InputStream** (p. 1701), **decaf::io::OutputStream** (p. 2337), **decaf::util::AbstractCollection< E >** (p. 151), **decaf::util::AbstractMap< K, V >** (p. 169), **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1068), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1212), **decaf::util::concurrent::Mutex** (p. 2225), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2865), **decaf::util::StlQueue< T >** (p. 2873), **decaf::util::AbstractCollection< ServiceListener * >** (p. 151), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 151), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 151), **decaf::util::AbstractCollection< Resource * >** (p. 151), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 151), **decaf::util::AbstractCollection< CompositeTask * >** (p. 151), **decaf::util::AbstractCollection< URI >** (p. 151), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 151), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 151), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 151), **decaf::util::AbstractCollection< V >** (p. 151), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 151), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 151), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 151), **decaf::util::AbstractCollection< cms::MessageProducer * >** (p. 151), **decaf::util::AbstractCollection< cms::Destination * >** (p. 151), **decaf::util::AbstractCollection< cms::Session * >** (p. 151), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 151), **decaf::util::AbstractCollection< cms::Connection * >** (p. 151), **decaf::util::AbstractCollection< K >** (p. 151), **decaf::util::AbstractMap< E, Set< E > * >** (p. 169), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR**

> (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1068), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2865), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2865), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2865), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2865), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2865), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2865), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2865), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2865), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2865), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2865).

6.608.3.5 virtual void decaf::util::concurrent::Synchronizable::unlock () [pure virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1503), **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2752), **decaf::internal::util::concurrent::SynchronizableImpl** (p. 2950), **decaf::io::InputStream** (p. 1701), **decaf::io::OutputStream** (p. 2337), **decaf::util::AbstractCollection< E >** (p. 151), **decaf::util::AbstractMap< K, V >** (p. 169), **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1068), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1213), **decaf::util::concurrent::Mutex** (p. 2225), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2865), **decaf::util::StlQueue< T >** (p. 2874), **decaf::util::AbstractCollection< ServiceListener * >** (p. 151), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 151), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 151), **decaf::util::AbstractCollection< Resource * >** (p. 151), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 151), **decaf::util::AbstractCollection< CompositeTask * >** (p. 151), **decaf::util::AbstractCollection< URI >** (p. 151), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 151), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 151), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 151), **decaf::util::AbstractCollection< V >** (p. 151), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 151), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 151), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 151), **decaf::util::AbstractCollection< cms::MessageProducer * >** (p. 151), **decaf::util::AbstractCollection< cms::Destination * >** (p. 151), **decaf::util::AbstractCollection< cms::Session * >** (p. 151), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 151), **decaf::util::AbstractCollection< cms::Connection * >** (p. 151), **decaf::util::AbstractCollection< K >** (p. 151), **decaf::util::AbstractMap< E, Set< E > * >** (p. 169), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId**

>, **Pointer< SessionState >**, **SessionId::COMPARATOR** > (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR** > (p. 1068), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR** > (p. 1068), **decaf::util::StlMap< cms::Session ∗, SessionResolver ∗** > (p. 2865), **decaf::util::StlMap< std::string, WireFormatFactory ∗** > (p. 2865), **decaf::util::StlMap< decaf::lang::Runnable ∗, decaf::util::TimerTask ∗** > (p. 2865), **decaf::util::StlMap< std::string, PrimitiveValueNode** > (p. 2865), **decaf::util::StlMap< std::string, cms::Queue ∗** > (p. 2865), **decaf::util::StlMap< std::string, CachedConsumer ∗** > (p. 2865), **decaf::util::StlMap< std::string, TransportFactory ∗** > (p. 2865), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR** > (p. 2865), **decaf::util::StlMap< std::string, CachedProducer ∗** > (p. 2865), and **decaf::util::StlMap< std::string, cms::Topic ∗** > (p. 2865).

6.608.3.6 virtual void decaf::util::concurrent::Synchronizable::wait (long long *millisecs*, int *nanos*) [pure virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1503), **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2752), **decaf::internal::util::concurrent::SynchronizableImpl** (p. 2950), **decaf::io::InputStream** (p. 1702), **decaf::io::OutputStream** (p. 2337), **decaf::util::AbstractCollection< E >** (p. 151), **decaf::util::AbstractMap< K, V >** (p. 170), **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1069), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1213), **decaf::util::concurrent::Mutex** (p. 2225), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2866), **decaf::util::StlQueue< T >** (p. 2874), **decaf::util::AbstractCollection< ServiceListener ∗ >** (p. 151), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 151), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 151), **decaf::util::AbstractCollection< Resource**

* > (p. 151), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 151), **decaf::util::AbstractCollection< CompositeTask * >** (p. 151), **decaf::util::AbstractCollection< URI >** (p. 151), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 151), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 151), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 151), **decaf::util::AbstractCollection< V >** (p. 151), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 151), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 151), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 151), **decaf::util::AbstractCollection< cms::MessageProducer * >** (p. 151), **decaf::util::AbstractCollection< cms::Destination * >** (p. 151), **decaf::util::AbstractCollection< cms::Session * >** (p. 151), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 151), **decaf::util::AbstractCollection< cms::Connection * >** (p. 151), **decaf::util::AbstractCollection< K >** (p. 151), **decaf::util::AbstractMap< E, Set< E > * >** (p. 170), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1069), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1069), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1069), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1069), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2866), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2866), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2866), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2866), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2866), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2866), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2866), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2866), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2866), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2866).

6.608.3.7 virtual void decaf::util::concurrent::Synchronizable::wait (long long *millisecs*) [pure virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1504), **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2753), **decaf::internal::util::concurrent::SynchronizableImpl** (p. 2951), **decaf::io::InputStream** (p. 1702), **decaf::io::OutputStream** (p. 2338), **decaf::util::AbstractCollection<**

E > (p. 152), **decaf::util::AbstractMap**< **K, V** > (p. 170), **decaf::util::concurrent::ConcurrentStlMap**< **K, V, COMPARATOR** > (p. 1070), **decaf::util::concurrent::CopyOnWriteArrayList**< **E** > (p. 1214), **decaf::util::concurrent::Mutex** (p. 2226), **decaf::util::StlMap**< **K, V, COMPARATOR** > (p. 2866), **decaf::util::StlQueue**< **T** > (p. 2874), **decaf::util::AbstractCollection**< **ServiceListener** * > (p. 152), **decaf::util::AbstractCollection**< **Pointer**< **Transport** > > (p. 152), **decaf::util::AbstractCollection**< **Pointer**< **Synchronization** > > (p. 152), **decaf::util::AbstractCollection**< **Resource** * > (p. 152), **decaf::util::AbstractCollection**< **cms::MessageConsumer** * > (p. 152), **decaf::util::AbstractCollection**< **CompositeTask** * > (p. 152), **decaf::util::AbstractCollection**< **URI** > (p. 152), **decaf::util::AbstractCollection**< **Pointer**< **MessageDispatch** > > (p. 152), **decaf::util::AbstractCollection**< **Pointer**< **DestinationInfo** > > (p. 152), **decaf::util::AbstractCollection**< **PrimitiveValueNode** > (p. 152), **decaf::util::AbstractCollection**< **V** > (p. 152), **decaf::util::AbstractCollection**< **MapEntry**< **K, V** > > (p. 152), **decaf::util::AbstractCollection**< **decaf::net::URI** > (p. 152), **decaf::util::AbstractCollection**< **Pointer**< **Command** > > (p. 152), **decaf::util::AbstractCollection**< **cms::MessageProducer** * > (p. 152), **decaf::util::AbstractCollection**< **cms::Destination** * > (p. 152), **decaf::util::AbstractCollection**< **cms::Session** * > (p. 152), **decaf::util::AbstractCollection**< **Pointer**< **ActiveMQDestination** > > (p. 152), **decaf::util::AbstractCollection**< **cms::Connection** * > (p. 152), **decaf::util::AbstractCollection**< **K** > (p. 152), **decaf::util::AbstractMap**< **E, Set**< **E** > * > (p. 170), **decaf::util::concurrent::ConcurrentStlMap**< **Pointer**< **ConsumerId** >, **Pointer**< **ConsumerState** >, **ConsumerId::COMPARATOR** > (p. 1070), **decaf::util::concurrent::ConcurrentStlMap**< **Pointer**< **SessionId** >, **Pointer**< **SessionState** >, **SessionId::COMPARATOR** > (p. 1070), **decaf::util::concurrent::ConcurrentStlMap**< **Pointer**< **LocalTransactionId** >, **Pointer**< **TransactionState** >, **LocalTransactionId::COMPARATOR** > (p. 1070), **decaf::util::concurrent::ConcurrentStlMap**< **Pointer**< **ProducerId** >, **Pointer**< **ProducerState** >, **ProducerId::COMPARATOR** > (p. 1070), **decaf::util::StlMap**< **cms::Session** *, **SessionResolver** * > (p. 2866), **decaf::util::StlMap**< **std::string, WireFormatFactory** * > (p. 2866), **decaf::util::StlMap**< **decaf::lang::Runnable** *, **decaf::util::TimerTask** * > (p. 2866), **decaf::util::StlMap**< **std::string, PrimitiveValueNode** > (p. 2866), **decaf::util::StlMap**< **std::string, cms::Queue** * > (p. 2866), **decaf::util::StlMap**< **std::string, CachedConsumer** * > (p. 2866), **decaf::util::StlMap**< **std::string, TransportFactory** * > (p. 2866), **decaf::util::StlMap**< **Pointer**< **ConsumerId** >, **Pointer**< **ConsumerInfo** >, **ConsumerId::COMPARATOR** > (p. 2866), **decaf::util::StlMap**< **std::string, CachedProducer** * > (p. 2866), and **decaf::util::StlMap**< **std::string, cms::Topic** * > (p. 2866).

6.608.3.8 virtual void decaf::util::concurrent::Synchronizable::wait () [pure virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the **Synchronizable** (p. 2938) Object.

Implemented in **activemq::core::FifoMessageDispatchChannel** (p. 1504), **activemq::core::SimplePriorityMessageDispatchChannel** (p. 2753), **decaf::internal::util::concurrent::SynchronizableImpl** (p. 2951), **decaf::io::InputStream** (p. 1702), **decaf::io::OutputStream** (p. 2338), **decaf::util::AbstractCollection< E >** (p. 152), **decaf::util::AbstractMap< K, V >** (p. 170), **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >** (p. 1070), **decaf::util::concurrent::CopyOnWriteArrayList< E >** (p. 1214), **decaf::util::concurrent::Mutex** (p. 2226), **decaf::util::StlMap< K, V, COMPARATOR >** (p. 2867), **decaf::util::StlQueue< T >** (p. 2875), **decaf::util::AbstractCollection< ServiceListener * >** (p. 152), **decaf::util::AbstractCollection< Pointer< Transport > >** (p. 152), **decaf::util::AbstractCollection< Pointer< Synchronization > >** (p. 152), **decaf::util::AbstractCollection< Resource * >** (p. 152), **decaf::util::AbstractCollection< cms::MessageConsumer * >** (p. 152), **decaf::util::AbstractCollection< CompositeTask * >** (p. 152), **decaf::util::AbstractCollection< URI >** (p. 152), **decaf::util::AbstractCollection< Pointer< MessageDispatch > >** (p. 152), **decaf::util::AbstractCollection< Pointer< DestinationInfo > >** (p. 152), **decaf::util::AbstractCollection< PrimitiveValueNode >** (p. 152), **decaf::util::AbstractCollection< V >** (p. 152), **decaf::util::AbstractCollection< MapEntry< K, V > >** (p. 152), **decaf::util::AbstractCollection< decaf::net::URI >** (p. 152), **decaf::util::AbstractCollection< Pointer< Command > >** (p. 152), **decaf::util::AbstractCollection< cms::MessageProducer * >** (p. 152), **decaf::util::AbstractCollection< cms::Destination * >** (p. 152), **decaf::util::AbstractCollection< cms::Session * >** (p. 152), **decaf::util::AbstractCollection< Pointer< ActiveMQDestination > >** (p. 152), **decaf::util::AbstractCollection< cms::Connection * >** (p. 152), **decaf::util::AbstractCollection< K >** (p. 152), **decaf::util::AbstractMap< E, Set< E > * >** (p. 170), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ConsumerId >, Pointer< ConsumerState >, ConsumerId::COMPARATOR >** (p. 1070), **decaf::util::concurrent::ConcurrentStlMap< Pointer< SessionId >, Pointer< SessionState >, SessionId::COMPARATOR >** (p. 1070), **decaf::util::concurrent::ConcurrentStlMap< Pointer< LocalTransactionId >, Pointer< TransactionState >, LocalTransactionId::COMPARATOR >** (p. 1070), **decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >** (p. 1070), **decaf::util::StlMap< cms::Session *, SessionResolver * >** (p. 2867), **decaf::util::StlMap< std::string, WireFormatFactory * >** (p. 2867), **decaf::util::StlMap< decaf::lang::Runnable *, decaf::util::TimerTask * >** (p. 2867), **decaf::util::StlMap< std::string, PrimitiveValueNode >** (p. 2867), **decaf::util::StlMap< std::string, cms::Queue * >** (p. 2867), **decaf::util::StlMap< std::string, CachedConsumer * >** (p. 2867), **decaf::util::StlMap< std::string, TransportFactory * >** (p. 2867), **decaf::util::StlMap< Pointer< ConsumerId >, Pointer< ConsumerInfo >, ConsumerId::COMPARATOR >** (p. 2867), **decaf::util::StlMap< std::string, CachedProducer * >** (p. 2867), and **decaf::util::StlMap< std::string, cms::Topic * >** (p. 2867).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**Synchronizable.h**

6.609 decaf::internal::util::concurrent::SynchronizableImpl Class Reference

A convenience class used by some Decaf classes to implement the Synchronizable interface when there is no issues related to multiple inheritance.

`#include <src/main/decaf/internal/util/concurrent/SynchronizableImpl.h>`Inheritance diagram for decaf::internal::util::concurrent::SynchronizableImpl:

Public Member Functions

- **SynchronizableImpl** ()
- virtual ~**SynchronizableImpl** ()
- virtual void **lock** ()

  Locks the object.

- virtual bool **tryLock** ()

  Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

- virtual void **unlock** ()

  Unlocks the object.

- virtual void **wait** ()

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **wait** (long long millisecs, int nanos)

  Waits on a signal from this object, which is generated by a call to Notify.

- virtual void **notify** ()

  Signals a waiter on this object that it can now wake up and continue.

- virtual void **notifyAll** ()

  Signals the waiters on this object that it can now wake up and continue.

6.609.1 Detailed Description

A convenience class used by some Decaf classes to implement the Synchronizable interface when there is no issues related to multiple inheritance.

Since:

1.0

6.609.2 Constructor & Destructor Documentation

6.609.2.1 decaf::internal::util::concurrent::SynchronizableImpl::SynchronizableImpl ()

6.609.2.2 virtual decaf::internal::util::concurrent::SynchronizableImpl::~SynchronizableImpl () [virtual]

6.609.3 Member Function Documentation

6.609.3.1 virtual void decaf::internal::util::concurrent::SynchronizableImpl::lock () [virtual]

Locks the object.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2939).

6.609.3.2 virtual void decaf::internal::util::concurrent::SynchronizableImpl::notify () [virtual]

Signals a waiter on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying one of the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2940).

6.609.3.3 virtual void decaf::internal::util::concurrent::SynchronizableImpl::notifyAll () [virtual]

Signals the waiters on this object that it can now wake up and continue. Must have this object locked before calling.

Exceptions:

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

RuntimeException if an error occurs while notifying the waiting threads.

Implements **decaf::util::concurrent::Synchronizable** (p. 2941).

6.609.3.4 virtual bool decaf::internal::util::concurrent::SynchronizableImpl::tryLock () [virtual]

Attempts to Lock the object, if the lock is already held by another thread than this method returns false.

Returns:

true if the lock was acquired, false if it is already held by another thread.

Exceptions:

RuntimeException if an error occurs while locking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2942).

6.609.3.5 virtual void decaf::internal::util::concurrent::SynchronizableImpl::unlock () [virtual]

Unlocks the object.

Exceptions:

RuntimeException if an error occurs while unlocking the object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2943).

6.609.3.6 virtual void decaf::internal::util::concurrent::SynchronizableImpl::wait (long long *millisecs*, int *nanos*) [virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval. This method is similar to the one argument wait function except that it add a finer grained control over the amount of time that it waits by adding in the additional nanosecond argument.

NOTE: The ability to wait accurately at a nanosecond scale depends on the platform and OS that the Decaf API is running on, some systems do not provide an accurate enough clock to provide this level of granularity.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

nanos additional time in nanoseconds with a range of 0-999999

Exceptions:

IllegalArgumentException if an error occurs or the nanos argument is not in the range of [0-999999]

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2944).

6.609.3.7 virtual void decaf::internal::util::concurrent::SynchronizableImpl::wait (long long *millisecs*) [virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling. This wait will timeout after the specified time interval.

Parameters:

millisecs the time in milliseconds to wait, or WAIT_INIFINITE

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2945).

6.609.3.8 virtual void decaf::internal::util::concurrent::SynchronizableImpl::wait () [virtual]

Waits on a signal from this object, which is generated by a call to Notify. Must have this object locked before calling.

Exceptions:

RuntimeException if an error occurs while waiting on the object.

InterruptedException if the wait is interrupted before it completes.

IllegalMonitorStateException - if the current thread is not the owner of the the Synchronizable Object.

Implements **decaf::util::concurrent::Synchronizable** (p. 2946).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**SynchronizableImpl.h**

6.610 activemq::core::Synchronization Class Reference

Transacted Object **Synchronization** (p. 2952), used to sync the events of a Transaction with the items in the Transaction.

`#include <src/main/activemq/core/Synchronization.h>`

Public Member Functions

- virtual ~**Synchronization** ()
- virtual void **beforeEnd** ()=0
- virtual void **afterCommit** ()=0
- virtual void **afterRollback** ()=0

6.610.1 Detailed Description

Transacted Object **Synchronization** (p. 2952), used to sync the events of a Transaction with the items in the Transaction.

6.610.2 Constructor & Destructor Documentation

6.610.2.1 virtual activemq::core::Synchronization::~Synchronization () [virtual]

6.610.3 Member Function Documentation

6.610.3.1 virtual void activemq::core::Synchronization::afterCommit () [pure virtual]

6.610.3.2 virtual void activemq::core::Synchronization::afterRollback () [pure virtual]

6.610.3.3 virtual void activemq::core::Synchronization::beforeEnd () [pure virtual]

The documentation for this class was generated from the following file:

- src/main/activemq/core/**Synchronization.h**

6.611 decaf::util::concurrent::SynchronousQueue< E > Class Template Reference

A **blocking queue** (p. 684) in which each insert operation must wait for a corresponding remove operation by another thread, and vice versa.

`#include <src/main/decaf/util/concurrent/SynchronousQueue.h>`Inheritance diagram for decaf::util::concurrent::SynchronousQueue< E >:

Data Structures

- class **EmptyIterator**

Public Member Functions

- **SynchronousQueue** ()
- virtual ~**SynchronousQueue** ()
- virtual void **put** (const E &value)

  Adds the specified element to this queue, waiting if necessary for another thread to receive it.

- virtual bool **offer** (const E &e, long long timeout, const **TimeUnit** &unit)

  Inserts the specified element into this queue, waiting if necessary up to the specified wait time for another thread to receive it.

- virtual bool **offer** (const E &value)

  Inserts the specified element into this queue, if another thread is waiting to receive it.

- virtual E **take** ()

  Retrieves and removes the head of this queue, waiting if necessary for another thread to insert it.

- virtual bool **poll** (E &result, long long timeout, const **TimeUnit** &unit)

  Retrieves and removes the head of this queue, waiting if necessary up to the specified wait time, for another thread to insert it.

- virtual bool **poll** (E &result)

  Retrieves and removes the head of this queue, if another thread is currently making an element available.

- virtual bool **equals** (const **Collection**< E > &value) const

  *Answers true if this **Collection*** (p. *1000) and the one given are the same size and if each element contained in the **Collection*** (p. *1000) given is equal to an element contained in this collection.*

- virtual **decaf::util::Iterator**< E > * **iterator** ()
- virtual **decaf::util::Iterator**< E > * **iterator** () const
- virtual bool **isEmpty** () const

  Returns true if this collection contains no elements.

- virtual int **size** () const

  Returns the number of elements in this collection.

- virtual int **remainingCapacity** () const

  Returns the number of additional elements that this queue can ideally (in the absence of memory or resource constraints) accept without blocking, or ***Integer::MAX_VALUE*** *if there is no intrinsic limit.*

- virtual void **clear** ()

  Removes all of the elements from this collection (optional operation).
  The collection will be empty after this method returns.
  This implementation iterates over this collection, removing each element using the ***Iterator.remove*** *(p. 1790) operation. Most implementations will probably choose to override this method for efficiency.*
  Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.
  Exceptions:

  UnsupportedOperationException *if the clear operation is not supported by this collection*

  This implementation repeatedly invokes poll until it returns false.

- virtual bool **contains** (const E &value DECAF_UNUSED) const
- virtual bool **containsAll** (const **Collection**< E > &collection) const

  This implementation iterates over the specified collection, checking each element returned by the iterator in turn to see if it's contained in this collection. If all elements are so contained true is returned, otherwise false.

- virtual bool **remove** (const E &value DECAF_UNUSED)
- virtual bool **removeAll** (const **Collection**< E > &collection DECAF_UNUSED)
- virtual bool **retainAll** (const **Collection**< E > &collection DECAF_UNUSED)
- virtual bool **peek** (E &result DECAF_UNUSED) const
- virtual std::vector< E > **toArray** () const

  Answers an STL vector containing copies of all elements contained in this ***Collection*** *(p. 1000).*

- virtual int **drainTo** (**Collection**< E > &c)

  Removes all available elements from this queue and adds them to the given collection.

- virtual int **drainTo** (**Collection**< E > &c, int maxElements)

  Removes at most the given number of available elements from this queue and adds them to the given collection.

6.611.1 Detailed Description

template<typename E> class decaf::util::concurrent::SynchronousQueue< E >

A **blocking queue** (p. 684) in which each insert operation must wait for a corresponding remove operation by another thread, and vice versa. A synchronous queue does not have any **internal** (p. 96) capacity, not even a capacity of one. You cannot `peek` at a synchronous queue because an element is only present when you try to remove it; you cannot insert an element (using any method) unless another thread is trying to remove it; you cannot iterate as there is nothing to

iterate. The *head* of the queue is the element that the first queued inserting thread is trying to add to the queue; if there is no such queued thread then no element is available for removal and `poll()` (p. 2959) will return `null`. For purposes of other `Collection` (p. 1000) methods (for example `contains`), a `SynchronousQueue` (p. 2953) acts as an empty collection. This queue does not permit `null` elements.

Synchronous queues are similar to rendezvous channels used in CSP and Ada. They are well suited for handoff designs, in which an object running in one thread must sync up with an object running in another thread in order to hand it some information, event, or task.

This class supports an optional fairness policy for ordering waiting producer and consumer threads. By default, this ordering is not guaranteed. However, a queue constructed with fairness set to `true` grants threads access in FIFO order.

This class and its iterator implement all of the *optional* methods of the **Collection** (p. 1000) and **Iterator** (p. 1789) interfaces.

Since:

1.0

6.611.2 Constructor & Destructor Documentation

6.611.2.1 template<typename E > decaf::util::concurrent::SynchronousQueue< E >::SynchronousQueue () [inline]

6.611.2.2 template<typename E > virtual decaf::util::concurrent::SynchronousQueue< E >::~SynchronousQueue () [inline, virtual]

6.611.3 Member Function Documentation

6.611.3.1 template<typename E > virtual void decaf::util::concurrent::SynchronousQueue< E >::clear () [inline, virtual]

Removes all of the elements from this collection (optional operation).

The collection will be empty after this method returns.

This implementation iterates over this collection, removing each element using the **Iterator.remove** (p. 1790) operation. Most implementations will probably choose to override this method for efficiency.

Note that this implementation will throw an UnsupportedOperationException if the iterator returned by this collection's iterator method does not implement the remove method and this collection is non-empty.

Exceptions:

UnsupportedOperationException if the clear operation is not supported by this collection

This implementation repeatedly invokes poll until it returns false. This implementation repeatedly invokes poll until it returns false.

Reimplemented from **decaf::util::AbstractQueue< E >** (p. 177).

6.611.3.2 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::contains (const E &value *DECAF_UNUSED*) const [inline, virtual]

6.611.3.3 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::containsAll (const Collection< E > & *collection*) const [inline, virtual]

This implementation iterates over the specified collection, checking each element returned by the iterator in turn to see if it's contained in this collection. If all elements are so contained true is returned, otherwise false. This implementation iterates over the specified collection, checking each element returned by the iterator in turn to see if it's contained in this collection. If all elements are so contained true is returned, otherwise false.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 146).

References decaf::util::Collection< E >::isEmpty().

6.611.3.4 template<typename E > virtual int decaf::util::concurrent::SynchronousQueue< E >::drainTo (Collection< E > & *c*, int *maxElements*) [inline, virtual]

Removes at most the given number of available elements from this queue and adds them to the given collection. A failure encountered while attempting to add elements to collection `c` may result in elements being in neither, either or both collections when the associated exception is thrown. Attempts to drain a queue to itself result in `IllegalArgumentException`. Further, the behavior of this operation is undefined if the specified collection is modified while the operation is in progress.

Parameters:

c the collection to transfer elements into

maxElements the maximum number of elements to transfer

Returns:

the number of elements transferred

Exceptions:

UnsupportedOperationException if addition of elements is not supported by the specified collection

IllegalArgumentException if the specified collection is this queue, or some property of an element of this queue prevents it from being added to the specified collection

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 686).

References decaf::util::Collection< E >::add(), decaf::util::AbstractQueue< E >::element(), and decaf::util::concurrent::SynchronousQueue< E >::poll().

6.611.3.5 template<typename E > virtual int decaf::util::concurrent::SynchronousQueue< E >::drainTo (Collection< E > & *c*) [inline, virtual]

Removes all available elements from this queue and adds them to the given collection. This operation may be more efficient than repeatedly polling this queue. A failure encountered while

attempting to add elements to collection `c` may result in elements being in neither, either or both collections when the associated exception is thrown. Attempts to drain a queue to itself result in `IllegalArgumentException`. Further, the behavior of this operation is undefined if the specified collection is modified while the operation is in progress.

Parameters:

c the collection to transfer elements into

Returns:

the number of elements transferred

Exceptions:

UnsupportedOperationException if addition of elements is not supported by the specified collection

IllegalArgumentException if the specified collection is this queue, or some property of an element of this queue prevents it from being added to the specified collection

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 687).

References decaf::util::Collection< E >::add(), decaf::util::AbstractQueue< E >::element(), and decaf::util::concurrent::SynchronousQueue< E >::poll().

6.611.3.6 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::equals (const Collection< E > & *collection*) const [inline, virtual]

Answers true if this **Collection** (p. 1000) and the one given are the same size and if each element contained in the **Collection** (p. 1000) given is equal to an element contained in this collection.

Parameters:

collection - The **Collection** (p. 1000) to be compared to this one.

Returns:

true if this **Collection** (p. 1000) is equal to the one given.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

6.611.3.7 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::isEmpty () const [inline, virtual]

Returns true if this collection contains no elements. This implementation returns **size()** (p. 2961) == 0.

Returns:

true if the size method return 0.

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 147).

6.611.3.8 template<typename E > virtual decaf::util::Iterator<E>* decaf::util::concurrent::SynchronousQueue< E >::iterator () const [inline, virtual]

Implements **decaf::lang::Iterable< E >** (p. 1786).

6.611.3.9 template<typename E > virtual decaf::util::Iterator<E>* decaf::util::concurrent::SynchronousQueue< E >::iterator () [inline, virtual]

Returns:

an iterator over a set of elements of type T.

Implements **decaf::lang::Iterable< E >** (p. 1787).

6.611.3.10 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::offer (const E & *value*) [inline, virtual]

Inserts the specified element into this queue, if another thread is waiting to receive it.

Parameters:

value the element to add to the **Queue** (p. 2500)

Returns:

`true` if the element was added to this queue, else `false`

Exceptions:

NullPointerException if the **Queue** (p. 2500) implementation does not allow Null values to be inserted into the **Queue** (p. 2500).

IllegalArgumentException if some property of the specified element prevents it from being added to this queue

Implements **decaf::util::Queue< E >** (p. 2501).

6.611.3.11 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::offer (const E & *e*, long long *timeout*, const TimeUnit & *unit*) [inline, virtual]

Inserts the specified element into this queue, waiting if necessary up to the specified wait time for another thread to receive it.

Returns:

`true` if successful, or `false` if the specified waiting time elapses before a consumer appears.

Exceptions:

InterruptedException Inserts the specified element into this queue, waiting up to the specified wait time if necessary for space to become available.

NullPointerException Inserts the specified element into this queue, waiting up to the specified wait time if necessary for space to become available.

IllegalArgumentException Inserts the specified element into this queue, waiting up to the specified wait time if necessary for space to become available.

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 687).

6.611.3.12 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::peek (E &result *DECAF_UNUSED*) const [inline, virtual]

6.611.3.13 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::poll (E & *result*) [inline, virtual]

Retrieves and removes the head of this queue, if another thread is currently making an element available.

Parameters:

result a reference to the value where the head of the **Queue** (p. 2500) should be copied to.

Returns:

true if the head of the **Queue** (p. 2500) was copied to the result param or false if no value could be returned.

Implements **decaf::util::Queue< E >** (p. 2502).

6.611.3.14 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::poll (E & *result*, long long *timeout*, const TimeUnit & *unit*) [inline, virtual]

Retrieves and removes the head of this queue, waiting if necessary up to the specified wait time, for another thread to insert it.

Parameters:

result a reference to the value where the head of the **Queue** (p. 2500) should be copied to.

timeout the time that the method should block if there is no element available to return.

unit the Time Units that the timeout value represents.

Returns:

true if the head of the **Queue** (p. 2500) was copied to the result param or false if no value could be returned.

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 688).

Referenced by decaf::util::concurrent::SynchronousQueue< E >::drainTo().

6.611.3.15 template<typename E > virtual void decaf::util::concurrent::SynchronousQueue< E >::put (const E & *value*) [inline, virtual]

Adds the specified element to this queue, waiting if necessary for another thread to receive it.

Parameters:

value the element to add to the **Queue** (p. 2500).

Exceptions:

InterruptedException Inserts the specified element into this queue, waiting if necessary for space to become available.

NullPointerException Inserts the specified element into this queue, waiting if necessary for space to become available.

IllegalArgumentException Inserts the specified element into this queue, waiting if necessary for space to become available.

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 688).

6.611.3.16 template<typename E > virtual int decaf::util::concurrent::SynchronousQueue< E >::remainingCapacity () const [inline, virtual]

Returns the number of additional elements that this queue can ideally (in the absence of memory or resource constraints) accept without blocking, or `Integer::MAX_VALUE` if there is no intrinsic limit. Note that you *cannot* always tell if an attempt to insert an element will succeed by inspecting `remainingCapacity` because it may be the case that another thread is about to insert or remove an element.

Returns:

the remaining capacity

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 689).

6.611.3.17 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::remove (const E &value *DECAF_UNUSED*) [inline, virtual]

6.611.3.18 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::removeAll (const Collection< E > &collection *DECAF_UNUSED*) [inline, virtual]

6.611.3.19 template<typename E > virtual bool decaf::util::concurrent::SynchronousQueue< E >::retainAll (const Collection< E > &collection *DECAF_UNUSED*) [inline, virtual]

6.611.3.20 template<typename E > virtual int decaf::util::concurrent::SynchronousQueue< E >::size () const [inline, virtual]

Returns the number of elements in this collection. If this collection contains more than Integer::MAX_VALUE elements, returns Integer::MAX_VALUE.

Returns:

the number of elements in this collection

Implements **decaf::util::Collection< E >** (p. 1009).

6.611.3.21 template<typename E > virtual E decaf::util::concurrent::SynchronousQueue< E >::take () [inline, virtual]

Retrieves and removes the head of this queue, waiting if necessary for another thread to insert it.

Returns:

the head of this queue

Exceptions:

InterruptedException Retrieves and removes the head of this queue, waiting if necessary until an element becomes available.

Implements **decaf::util::concurrent::BlockingQueue< E >** (p. 689).

6.611.3.22 template<typename E > virtual std::vector<E> decaf::util::concurrent::SynchronousQueue< E >::toArray () const [inline, virtual]

Answers an STL vector containing copies of all elements contained in this **Collection** (p. 1000). All the elements in the array will not be referenced by the collection. The elements in the returned array will be sorted to the same order as those returned by the iterator of this collection itself if the collection guarantees the order.

Returns:

an vector of copies of all the elements from this **Collection** (p. 1000)

Reimplemented from **decaf::util::AbstractCollection< E >** (p. 150).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**SynchronousQueue.h**

6.612 decaf::lang::System Class Reference

The **System** (p. 2963) class provides static methods for accessing system level resources and performing some system dependent tasks such as looking up environment values and copying memory and arrays.

`#include <src/main/decaf/lang/System.h>`

Public Member Functions

- virtual ~**System** ()

Static Public Member Functions

- static void **arraycopy** (const char *src, std::size_t srcPos, char *dest, std::size_t destPos, std::size_t length)

  Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

- static void **arraycopy** (const unsigned char *src, std::size_t srcPos, unsigned char *dest, std::size_t destPos, std::size_t length)

  Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

- static void **arraycopy** (const short *src, std::size_t srcPos, short *dest, std::size_t destPos, std::size_t length)

  Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

- static void **arraycopy** (const int *src, std::size_t srcPos, int *dest, std::size_t destPos, std::size_t length)

  Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

- static void **arraycopy** (const long long *src, std::size_t srcPos, long long *dest, std::size_t destPos, std::size_t length)

  Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

- static void **arraycopy** (const float *src, std::size_t srcPos, float *dest, std::size_t destPos, std::size_t length)

  Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

- static void **arraycopy** (const double *src, std::size_t srcPos, double *dest, std::size_t destPos, std::size_t length)

Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

- template<typename E >
  static void **arraycopy** (const E *src, std::size_t srcPos, E *dest, std::size_t destPos, std::size_t length)

  Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

- static const **util::Map**< std::string, std::string > & **getenv** ()

  Enumerates the system environment and returns a map of env variable names to the string values they hold.

- static std::string **getenv** (const std::string &name)

  Reads an environment value from the system and returns it as a string object.

- static void **unsetenv** (const std::string &name)

  Clears a set environment value if one is set.

- static void **setenv** (const std::string &name, const std::string &value)

  Sets the specified system property to the value given.

- static long long **currentTimeMillis** ()

  Returns the current time in milliseconds.

- static long long **nanoTime** ()

  Returns the current value of the most precise available system timer, in nanoseconds.

- static int **availableProcessors** ()

  Returns the number of processors available for execution of Decaf Threads.

- static **decaf::util::Properties** & **getProperties** ()

  Gets the Properties object that holds the Properties accessed from calls to getProperty and setProperty.

- static std::string **getProperty** (const std::string &key)

  *Gets the specified **System** (p. 2963) property if set, otherwise returns an empty string.*

- static std::string **getProperty** (const std::string &key, const std::string &defaultValue)

  *Gets the specified **System** (p. 2963) property if set, otherwise returns the specified default value.*

- static std::string **setProperty** (const std::string &key, const std::string &value)

  *Sets the **System** (p. 2963) Property to the specified value.*

- static std::string **clearProperty** (const std::string &key)

  Clear any value associated with the system property specified.

Protected Member Functions

- **System** ()

Friends

- class **decaf::lang::Runtime**

6.612.1 Detailed Description

The **System** (p. 2963) class provides static methods for accessing system level resources and performing some system dependent tasks such as looking up environment values and copying memory and arrays.

Since:

1.0

6.612.2 Constructor & Destructor Documentation

6.612.2.1 decaf::lang::System::System () [protected]

6.612.2.2 virtual decaf::lang::System::~System () [inline, virtual]

6.612.3 Member Function Documentation

6.612.3.1 template<typename E > static void decaf::lang::System::arraycopy (const E * *src*, std::size_t *srcPos*, E * *dest*, std::size_t *destPos*, std::size_t *length*) [inline, static]

Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

Parameters:

src The source array to copy from.

srcPos The position in the array to start copying from.

dest The destination array to copy to.

destPos The position in the destination array to start writing at.

length The number of elements to copy from src to dest.

Exceptions:

NullPointerException if src or dest are NULL.

References NULL.

6.612.3.2 static void decaf::lang::System::arraycopy (const double * *src*, std::size_t *srcPos*, double * *dest*, std::size_t *destPos*, std::size_t *length*) [static]

Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

Parameters:

src The source array to copy from.

srcPos The position in the array to start copying from.

dest The destination array to copy to.

destPos The position in the destination array to start writing at.

length The number of elements to copy from src to dest.

Exceptions:

NullPointerException if src or dest are NULL.

6.612.3.3 static void decaf::lang::System::arraycopy (const float * *src*, std::size_t *srcPos*, float * *dest*, std::size_t *destPos*, std::size_t *length*) [static]

Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

Parameters:

src The source array to copy from.

srcPos The position in the array to start copying from.

dest The destination array to copy to.

destPos The position in the destination array to start writing at.

length The number of elements to copy from src to dest.

Exceptions:

NullPointerException if src or dest are NULL.

6.612.3.4 static void decaf::lang::System::arraycopy (const long long * *src*, std::size_t *srcPos*, long long * *dest*, std::size_t *destPos*, std::size_t *length*) [static]

Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

Parameters:

src The source array to copy from.

srcPos The position in the array to start copying from.

dest The destination array to copy to.

destPos The position in the destination array to start writing at.

length The number of elements to copy from src to dest.

Exceptions:

NullPointerException if src or dest are NULL.

6.612.3.5 static void decaf::lang::System::arraycopy (const int * *src*, std::size_t *srcPos*, int * *dest*, std::size_t *destPos*, std::size_t *length*) [static]

Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

Parameters:

src The source array to copy from.

srcPos The position in the array to start copying from.

dest The destination array to copy to.

destPos The position in the destination array to start writing at.

length The number of elements to copy from src to dest.

Exceptions:

NullPointerException if src or dest are NULL.

6.612.3.6 static void decaf::lang::System::arraycopy (const short * *src*, std::size_t *srcPos*, short * *dest*, std::size_t *destPos*, std::size_t *length*) [static]

Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

Parameters:

src The source array to copy from.

srcPos The position in the array to start copying from.

dest The destination array to copy to.

destPos The position in the destination array to start writing at.

length The number of elements to copy from src to dest.

Exceptions:

NullPointerException if src or dest are NULL.

6.612.3.7 static void decaf::lang::System::arraycopy (const unsigned char * *src*, std::size_t *srcPos*, unsigned char * *dest*, std::size_t *destPos*, std::size_t *length*) [static]

Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

Parameters:

src The source array to copy from.

srcPos The position in the array to start copying from.

dest The destination array to copy to.

destPos The position in the destination array to start writing at.

length The number of elements to copy from src to dest.

Exceptions:

NullPointerException if src or dest are NULL.

6.612.3.8 static void decaf::lang::System::arraycopy (const char * *src*, std::size_t *srcPos*, char * *dest*, std::size_t *destPos*, std::size_t *length*) [static]

Copies the number of elements specified by length from the source array starting at the given source offset specified by srcPos to the dest array starting at the given destination offset given by destPos.

Parameters:

src The source array to copy from.

srcPos The position in the array to start copying from.

dest The destination array to copy to.

destPos The position in the destination array to start writing at.

length The number of elements to copy from src to dest.

Exceptions:

NullPointerException if src or dest are NULL.

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::addAll(), decaf::util::concurrent::CopyOnWriteArrayList< E >::addAllAbsent(), decaf::lang::ArrayPointer< HashMapEntry * >::clone(), decaf::util::ArrayList< Pointer< ActiveMQDestination > >::ensureCapacity(), decaf::util::ArrayList< Pointer< ActiveMQDestination > >::removeAt(), and decaf::util::ArrayList< Pointer< ActiveMQDestination > >::trimToSize().

6.612.3.9 static int decaf::lang::System::availableProcessors () [static]

Returns the number of processors available for execution of Decaf Threads. This value may change during a particular execution of a Decaf based application. Applications that are sensitive to the number of available processors should therefore occasionally poll this property and adjust their resource usage appropriately.

Returns:

the number of available processors.

6.612.3.10 static std::string decaf::lang::System::clearProperty (const std::string & *key*) [static]

Clear any value associated with the system property specified.

Parameters:

key The key name of the system property to clear.

Returns:

the previous value of the property named by key if there was one, otherwise returns an empty string.

Exceptions:

IllegalArgumentException if key is an empty string.

6.612.3.11 static long long decaf::lang::System::currentTimeMillis () [static]

Returns the current time in milliseconds. Note that while the unit of time of the return value is a millisecond, the granularity of the value depends on the underlying operating system and may be larger. For example, many operating systems measure time in units of tens of milliseconds.

See the description of the class Date for a discussion of slight discrepancies that may arise between "computer time" and coordinated universal time (UTC).

Returns:

the difference, measured in milliseconds, between the current time and midnight, January 1, 1970 UTC.

6.612.3.12 static std::string decaf::lang::System::getenv (const std::string & *name*) [static]

Reads an environment value from the system and returns it as a string object.

Parameters:

name The environment variable to read.

Returns:

a string with the value from the variables or ""

Exceptions:

an **Exception** (p. 1445) if an error occurs while reading the Env.

6.612.3.13 static const util::Map<std::string, std::string>& decaf::lang::System::getenv () [static]

Enumerates the system environment and returns a map of env variable names to the string values they hold.

Returns:

A Map of all environment variables.

Exceptions:

Exception *(p. 1445)* if an error occurs while getting the Environment Map.

6.612.3.14 static decaf::util::Properties& decaf::lang::System::getProperties () [static]

Gets the Properties object that holds the Properties accessed from calls to getProperty and setProperty. If the Properties has not yet been created or are not yet initialized then they will be on the first call to a Properties accessor.

Returns:

a reference to the static system Properties object.

6.612.3.15 static std::string decaf::lang::System::getProperty (const std::string & *key*, const std::string & *defaultValue*) [static]

Gets the specified **System** (p. 2963) property if set, otherwise returns the specified default value. If the Properties has not yet been created or are not yet initialized then they will be on the first call to a Properties accessor.

Parameters:

key The key name of the desired system property to retrieve.

defaultValue The default value to return if the key is not set in the **System** (p. 2963) properties.

Returns:

the value of the named system property or the defaultValue if the property isn't set..

Exceptions:

IllegalArgumentException if key is an empty string.

6.612.3.16 static std::string decaf::lang::System::getProperty (const std::string & *key*) [static]

Gets the specified **System** (p. 2963) property if set, otherwise returns an empty string. If the Properties has not yet been created or are not yet initialized then they will be on the first call to a Properties accessor.

Parameters:

key The key name of the desired system property to retrieve.

Returns:

an empty string if the named property is not set, otherwise returns the value.

Exceptions:

IllegalArgumentException if key is an empty string.

6.612.3.17 static long long decaf::lang::System::nanoTime () [static]

Returns the current value of the most precise available system timer, in nanoseconds. This method can only be used to measure elapsed time and is not related to any other notion of system or wall-clock time. The value returned represents nanoseconds since some fixed but arbitrary time (perhaps in the future, so values may be negative). This method provides nanosecond precision, but not necessarily nanosecond accuracy. No guarantees are made about how frequently values change. Differences in successive calls that span greater than approximately 292 years (263 nanoseconds) will not accurately compute elapsed time due to numerical overflow.

For example, to measure how long some **code** (p. 999) takes to execute:

long long startTime = **System::nanoTime()** (p. 2971); // ... the **code** (p. 999) being measured ... long long estimatedTime = **System::nanoTime()** (p. 2971) - startTime;

Returns:

The current value of the system timer, in nanoseconds.

6.612.3.18 static void decaf::lang::System::setenv (const std::string & *name*, const std::string & *value*) [static]

Sets the specified system property to the value given.

Parameters:

name The name of the environment variables to set.

value The value to assign to name.

Exceptions:

an **Exception** (p. 1445) if an error occurs when setting the environment variable.

6.612.3.19 static std::string decaf::lang::System::setProperty (const std::string & *key*, const std::string & *value*) [static]

Sets the **System** (p. 2963) Property to the specified value.

Parameters:

key The key name of the system property to set to the given value.

value The value to assign to the key.

Returns:

the previous value of the property named by key if there was one, otherwise returns an empty string.

Exceptions:

IllegalArgumentException if key is an empty string.

6.612.3.20 static void decaf::lang::System::unsetenv (const std::string & *name*) [static]

Clears a set environment value if one is set.

Parameters:

name The environment variables to clear.

Exceptions:

an **Exception** (p. 1445) if an error occurs while reading the environment.

6.612.4 Friends And Related Function Documentation

6.612.4.1 friend class decaf::lang::Runtime [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**System.h**

6.613 activemq::threads::Task Class Reference

Represents a unit of work that requires one or more iterations to complete.

`#include <src/main/activemq/threads/Task.h>`Inheritance diagram for activemq::threads::Task:

Public Member Functions

- virtual ~**Task** ()
- virtual bool **iterate** ()=0

  Perform one iteration of work, returns true if the task needs to run again to complete or false to indicate that the task is now complete.

6.613.1 Detailed Description

Represents a unit of work that requires one or more iterations to complete.

Since:

3.0

6.613.2 Constructor & Destructor Documentation

6.613.2.1 virtual activemq::threads::Task::~Task () [virtual]

6.613.3 Member Function Documentation

6.613.3.1 virtual bool activemq::threads::Task::iterate () [pure virtual]

Perform one iteration of work, returns true if the task needs to run again to complete or false to indicate that the task is now complete.

Returns:

true if the task should be run again or false if the task has completed and the runner should wait for a wakeup call.

Implemented in **activemq::core::ActiveMQSessionExecutor** (p. 442), **activemq::threads::CompositeTaskRunner** (p. 1041), **activemq::transport::failover::BackupTransportPool** (p. 626), **activemq::transport::failover::CloseTransportsTask** (p. 964), and **activemq::transport::failover::FailoverTransport** (p. 1485).

The documentation for this class was generated from the following file:

- src/main/activemq/threads/**Task.h**

6.614 activemq::threads::TaskRunner Class Reference

`#include <src/main/activemq/threads/TaskRunner.h>`Inheritance diagram for activemq::threads::TaskRunner:

Public Member Functions

- virtual ~**TaskRunner** ()
- virtual void **start** ()=0

  Starts the task runner.

- virtual bool **isStarted** () const =0

  true if the start method has been called.

- virtual void **shutdown** (long long timeout)=0

  Shutdown after a timeout, does not guarantee that the task's iterate method has completed and the thread halted.

- virtual void **shutdown** ()=0

  Shutdown once the task has finished and the TaskRunner's thread has exited.

- virtual void **wakeup** ()=0

  *Signal the **TaskRunner** (p. 2974) to wakeup and execute another iteration cycle on the task, the **Task** (p. 2973) instance will be run until its iterate method has returned false indicating it is done.*

6.614.1 Constructor & Destructor Documentation

6.614.1.1 virtual activemq::threads::TaskRunner::~TaskRunner () [virtual]

6.614.2 Member Function Documentation

6.614.2.1 virtual bool activemq::threads::TaskRunner::isStarted () const [pure virtual]

true if the start method has been called.

Implemented in **activemq::threads::CompositeTaskRunner** (p. 1041), and **activemq::threads::DedicatedTaskRunner** (p. 1304).

6.614.2.2 virtual void activemq::threads::TaskRunner::shutdown () [pure virtual]

Shutdown once the task has finished and the TaskRunner's thread has exited.

Implemented in **activemq::threads::CompositeTaskRunner** (p. 1042), and **activemq::threads::DedicatedTaskRunner** (p. 1305).

6.614.2.3 virtual void activemq::threads::TaskRunner::shutdown (long long *timeout*) [pure virtual]

Shutdown after a timeout, does not guarantee that the task's iterate method has completed and the thread halted.

Parameters:

timeout - Time in Milliseconds to wait for the task to stop.

Implemented in **activemq::threads::CompositeTaskRunner** (p. 1042), and **activemq::threads::DedicatedTaskRunner** (p. 1305).

6.614.2.4 virtual void activemq::threads::TaskRunner::start () [pure virtual]

Starts the task runner. Prior to call this method tasks can be added to a Runner, but no executions will occur. The start method will create the background Thread(s) which do the work for this task runner.

Implemented in **activemq::threads::CompositeTaskRunner** (p. 1042), and **activemq::threads::DedicatedTaskRunner** (p. 1305).

6.614.2.5 virtual void activemq::threads::TaskRunner::wakeup () [pure virtual]

Signal the **TaskRunner** (p. 2974) to wakeup and execute another iteration cycle on the task, the **Task** (p. 2973) instance will be run until its iterate method has returned false indicating it is done.

Implemented in **activemq::threads::CompositeTaskRunner** (p. 1042), and **activemq::threads::DedicatedTaskRunner** (p. 1305).

The documentation for this class was generated from the following file:

- src/main/activemq/threads/**TaskRunner.h**

6.615 decaf::internal::net::tcp::TcpSocket Class Reference

Platform-independent implementation of the socket interface.

`#include <src/main/decaf/internal/net/tcp/TcpSocket.h>`Inheritance diagram for decaf::internal::net::tcp::TcpSocket:

Public Member Functions

- **TcpSocket** ()

  Construct a non-connected socket.

- virtual ~**TcpSocket** ()

  Releases the socket handle but not gracefully shut down the connection.

- bool **isConnected** () const
- bool **isClosed** () const
- virtual std::string **getLocalAddress** () const

  Gets the value of the local Inet address the ***Socket*** *(p. 2755) is bound to if bound, otherwise return the* ***InetAddress*** *(p. 1666) ANY value "0.0.0.0".*

  Returns:

  the local address bound to, or ANY.

- virtual void **create** ()

  Creates the underlying platform ***Socket*** *(p. 2755) data structures which allows for* ***Socket*** *(p. 2755) options to be applied.*
  The created socket is in an unconnected state.

  Exceptions:

  IOException *if an I/O error occurs while attempting this operation.*

- virtual void **accept** (SocketImpl *socket)

- virtual void **bind** (const std::string &ipaddress, int **port**)

  Binds this ***Socket*** *(p. 2755) instance to the local ip address and port number given.*

  Parameters:

  ipaddress *The address of local ip to bind to.*
  port *The port number on the host to bind to.*

  Exceptions:

  IOException *if an I/O error occurs while attempting this operation.*

- virtual void **connect** (const std::string &hostname, int **port**, int timeout)

  Connects this socket to the given host and port.

  Parameters:

  hostname *The name of the host to connect to, or IP address.*
  port *The port number on the host to connect to.*
  timeout *Time in milliseconds to wait for a connection, 0 indicates forever.*

Exceptions:

IOException *if an I/O error occurs while attempting this operation.*
SocketTimeoutException *(p. 2792) if the connect call times out due to timeout being set.*
IllegalArguementException *if a parameter has an illegal value.*

- virtual void **listen** (int backlog)

  Sets the maximum queue length for incoming connection indications (a request to connect) to the count argument.
  If a connection indication arrives when the queue is full, the connection is refused.
  Parameters:

  backlog *The maximum length of the connection queue.*
  Exceptions:

  IOException *if an I/O error occurs while attempting this operation.*

- virtual **decaf::io::InputStream** * **getInputStream** ()

  Gets the InputStream linked to this ***Socket*** *(p. 2755).*
  Returns:

  an InputStream pointer owned by the ***Socket*** *(p. 2755) object.*
  Exceptions:

  IOException *if an I/O error occurs while attempting this operation.*

- virtual **decaf::io::OutputStream** * **getOutputStream** ()

  Gets the OutputStream linked to this ***Socket*** *(p. 2755).*
  Returns:

  an OutputStream pointer owned by the ***Socket*** *(p. 2755) object.*
  Exceptions:

  IOException *if an I/O error occurs while attempting this operation.*

- virtual int **available** ()

  Gets the number of bytes that can be read from the ***Socket*** *(p. 2755) without blocking.*
  Returns:

  the number of bytes that can be read from the ***Socket*** *(p. 2755) without blocking.*
  Exceptions:

  IOException *if an I/O error occurs while attempting this operation.*

- virtual void **close** ()

  Closes the socket, terminating any blocked reads or writes.
  Exceptions:

  IOException *if an I/O error occurs while attempting this operation.*

- virtual void **shutdownInput** ()

  Places the input stream for this socket at "end of stream".
  Any data sent to this socket is acknowledged and then silently discarded. If you read from a socket input stream after invoking ***shutdownInput()*** *(p. 2785) on the socket, the stream will return EOF.*
  Exceptions:

  IOException *if an I/O error occurs while attempting this operation.*

- virtual void **shutdownOutput** ()

  Disables the output stream for this socket.
  For a TCP socket, any previously written data will be sent followed by TCP's normal connection termination sequence. If you write to a socket output stream after invoking ***shutdownOutput()*** *(p. 2785) on the socket, the stream will throw an IOException.*
  Exceptions:

  IOException *if an I/O error occurs while attempting this operation.*

- virtual int **getOption** (int option) const

  Gets the specified ***Socket*** *(p. 2755) option.*
  Parameters:

  option *The* ***Socket*** *(p. 2755) options whose value is to be retrieved.*
  Returns:

  the value of the given socket option.
  Exceptions:

  IOException *if an I/O error occurs while performing this operation.*

- virtual void **setOption** (int option, int value)

  Sets the specified option on the ***Socket*** *(p. 2755) if supported.*
  Parameters:

  option *The* ***Socket*** *(p. 2755) option to set.*
  value *The value of the socket option to apply to the socket.*
  Exceptions:

  IOException *if an I/O error occurs while performing this operation.*

- int **read** (unsigned char *buffer, int size, int offset, int length)

  Reads the requested data from the Socket and write it into the passed in buffer.

- void **write** (const unsigned char *buffer, int size, int offset, int length)

  Writes the specified data in the passed in buffer to the Socket.

Protected Member Functions

- void **checkResult** (apr_status_t value) const

6.615.1 Detailed Description

Platform-independent implementation of the socket interface.

6.615.2 Constructor & Destructor Documentation

6.615.2.1 decaf::internal::net::tcp::TcpSocket::TcpSocket ()

Construct a non-connected socket.

Exceptions:

SocketException thrown if an error occurs while creating the Socket.

6.615.2.2 virtual decaf::internal::net::tcp::TcpSocket::~TcpSocket () [virtual]

Releases the socket handle but not gracefully shut down the connection.

6.615.3 Member Function Documentation

6.615.3.1 virtual void decaf::internal::net::tcp::TcpSocket::accept (SocketImpl * *socket*) [virtual]

6.615.3.2 virtual int decaf::internal::net::tcp::TcpSocket::available () [virtual]

Gets the number of bytes that can be read from the **Socket** (p. 2755) without blocking.

Returns:

the number of bytes that can be read from the **Socket** (p. 2755) without blocking.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implements **decaf::net::SocketImpl** (p. 2781).

6.615.3.3 virtual void decaf::internal::net::tcp::TcpSocket::bind (const std::string & *ipaddress*, int *port*) [virtual]

Binds this **Socket** (p. 2755) instance to the local ip address and port number given.

Parameters:

ipaddress The address of local ip to bind to.

port The port number on the host to bind to.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implements **decaf::net::SocketImpl** (p. 2781).

6.615.3.4 void decaf::internal::net::tcp::TcpSocket::checkResult (apr_status_t *value*) const [protected]

6.615.3.5 virtual void decaf::internal::net::tcp::TcpSocket::close () [virtual]

Closes the socket, terminating any blocked reads or writes.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implements **decaf::net::SocketImpl** (p. 2782).

6.615.3.6 virtual void decaf::internal::net::tcp::TcpSocket::connect (const std::string & *hostname*, int *port*, int *timeout*) [virtual]

Connects this socket to the given host and port.

Parameters:

hostname The name of the host to connect to, or IP address.

port The port number on the host to connect to.

timeout Time in milliseconds to wait for a connection, 0 indicates forever.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

SocketTimeoutException *(*p. *2792)* if the connect call times out due to timeout being set.

IllegalArguementException if a parameter has an illegal value.

Implements **decaf::net::SocketImpl** (p. 2782).

6.615.3.7 virtual void decaf::internal::net::tcp::TcpSocket::create () [virtual]

Creates the underlying platform **Socket** (p. 2755) data structures which allows for **Socket** (p. 2755) options to be applied.

The created socket is in an unconnected state.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implements **decaf::net::SocketImpl** (p. 2782).

6.615.3.8 virtual decaf::io::InputStream* decaf::internal::net::tcp::TcpSocket::getInputStream () [virtual]

Gets the InputStream linked to this **Socket** (p. 2755).

Returns:

an InputStream pointer owned by the **Socket** (p. 2755) object.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implements **decaf::net::SocketImpl** (p. 2783).

6.615.3.9 virtual std::string decaf::internal::net::tcp::TcpSocket::getLocalAddress () const [virtual]

Gets the value of the local Inet address the **Socket** (p. 2755) is bound to if bound, otherwise return the **InetAddress** (p. 1666) ANY value "0.0.0.0".

Returns:

the local address bound to, or ANY.

Implements **decaf::net::SocketImpl** (p. 2783).

6.615.3.10 virtual int decaf::internal::net::tcp::TcpSocket::getOption (int *option*) const [virtual]

Gets the specified **Socket** (p. 2755) option.

Parameters:

option The **Socket** (p. 2755) options whose value is to be retrieved.

Returns:

the value of the given socket option.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Implements **decaf::net::SocketImpl** (p. 2783).

6.615.3.11 virtual decaf::io::OutputStream* decaf::internal::net::tcp::TcpSocket::getOutputStream () [virtual]

Gets the OutputStream linked to this **Socket** (p. 2755).

Returns:

an OutputStream pointer owned by the **Socket** (p. 2755) object.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implements **decaf::net::SocketImpl** (p. 2784).

6.615.3.12 bool decaf::internal::net::tcp::TcpSocket::isClosed () const

Returns:

true if the close method has been called on this Socket.

6.615.3.13 bool decaf::internal::net::tcp::TcpSocket::isConnected () const

Returns:

true if the socketHandle is not in a disconnected state.

6.615.3.14 virtual void decaf::internal::net::tcp::TcpSocket::listen (int *backlog*) [virtual]

Sets the maximum queue length for incoming connection indications (a request to connect) to the count argument.

If a connection indication arrives when the queue is full, the connection is refused.

Parameters:

backlog The maximum length of the connection queue.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implements **decaf::net::SocketImpl** (p. 2784).

6.615.3.15 int decaf::internal::net::tcp::TcpSocket::read (unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Reads the requested data from the Socket and write it into the passed in buffer.

Parameters:

buffer The buffer to read into

size The size of the specified buffer

offset The offset into the buffer where reading should start filling.

length The number of bytes past offset to fill with data.

Returns:

the actual number of bytes read or -1 if at EOF.

Exceptions:

IOException if an I/O error occurs during the read.

NullPointerException if buffer is Null.

IndexOutOfBoundsException if offset + length is greater than buffer size.

6.615.3.16 virtual void decaf::internal::net::tcp::TcpSocket::setOption (int *option*, int *value*) [virtual]

Sets the specified option on the **Socket** (p. 2755) if supported.

Parameters:

option The **Socket** (p. 2755) option to set.

value The value of the socket option to apply to the socket.

Exceptions:

IOException if an I/O error occurs while performing this operation.

Implements **decaf::net::SocketImpl** (p. 2785).

6.615.3.17 virtual void decaf::internal::net::tcp::TcpSocket::shutdownInput () [virtual]

Places the input stream for this socket at "end of stream".

Any data sent to this socket is acknowledged and then silently discarded. If you read from a socket input stream after invoking **shutdownInput()** (p. 2785) on the socket, the stream will return EOF.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implements **decaf::net::SocketImpl** (p. 2785).

6.615.3.18 virtual void decaf::internal::net::tcp::TcpSocket::shutdownOutput () [virtual]

Disables the output stream for this socket.

For a TCP socket, any previously written data will be sent followed by TCP's normal connection termination sequence. If you write to a socket output stream after invoking **shutdownOutput()** (p. 2785) on the socket, the stream will throw an IOException.

Exceptions:

IOException if an I/O error occurs while attempting this operation.

Implements **decaf::net::SocketImpl** (p. 2785).

6.615.3.19 void decaf::internal::net::tcp::TcpSocket::write (const unsigned char * *buffer*, int *size*, int *offset*, int *length*)

Writes the specified data in the passed in buffer to the Socket.

Parameters:

buffer The buffer to write to the socket.

size The size of the specified buffer.

offset The offset into the buffer where the data to write starts at.

length The number of bytes past offset to write.

Exceptions:

IOException if an I/O error occurs during the write.

NullPointerException if buffer is Null.

IndexOutOfBoundsException if offset + length is greater than buffer size.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/tcp/**TcpSocket.h**

6.616 decaf::internal::net::tcp::TcpSocketInputStream Class Reference

Input stream for performing reads on a socket.

`#include <src/main/decaf/internal/net/tcp/TcpSocketInputStream.h>`Inheritance diagram for decaf::internal::net::tcp::TcpSocketInputStream:

Public Member Functions

- **TcpSocketInputStream** (**TcpSocket** *socket)

  Create a new InputStream to use for reading from the TCP/IP socket.

- virtual ~**TcpSocketInputStream** ()
- virtual int **available** () const

  Indicates the number of bytes available.
  The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.
  The default implementation of this method returns zero.

  Returns:

  the number of bytes available on this input stream.

  Exceptions:

  IOException *(p. **1774**) if an I/O error occurs.*

- virtual void **close** ()

  Close - does nothing.

- virtual long long **skip** (long long num)

  Not supported.

Protected Member Functions

- virtual int **doReadByte** ()
- virtual int **doReadArrayBounded** (unsigned char *buffer, int size, int offset, int length)

6.616.1 Detailed Description

Input stream for performing reads on a socket. This class will only work properly for blocking sockets.

Since:

1.0

6.616.2 Constructor & Destructor Documentation

6.616.2.1 decaf::internal::net::tcp::TcpSocketInputStream::TcpSocketInputStream (TcpSocket * *socket*)

Create a new InputStream to use for reading from the TCP/IP socket.

Parameters:

socket The parent SocketImpl for this stream.

6.616.2.2 virtual decaf::internal::net::tcp::TcpSocketInputStream::~TcpSocketInputStream () [virtual]

6.616.3 Member Function Documentation

6.616.3.1 virtual int decaf::internal::net::tcp::TcpSocketInputStream::available () const [virtual]

Indicates the number of bytes available.

The default implementation of this methods returns 0. Classes that override this method may return the total number of bytes that are currently available for reading and others may simply return a value of one indicating that there is some data avaiable. The caller should view the result of this method as an absolute.

The default implementation of this method returns zero.

Returns:

the number of bytes available on this input stream.

Exceptions:

IOException *(*p. ***1774****)* if an I/O error occurs.

Reimplemented from **decaf::io::InputStream** (p. 1695).

6.616.3.2 virtual void decaf::internal::net::tcp::TcpSocketInputStream::close () [virtual]

Close - does nothing. It is the responsibility of the owner of the socket object to close it.

Closes the **InputStream** (p. 1694) freeing any resources that might have been acquired during the lifetime of this stream.

The default implementation of this method does nothing.

Exceptions:

IOException *(*p. ***1774****)* if an I/O error occurs while closing the **InputStream** (p. 1694).

Reimplemented from **decaf::io::InputStream** (p. 1696).

6.616.3.3 virtual int decaf::internal::net::tcp::TcpSocketInputStream::doReadArrayBounded (unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::InputStream** (p. 1696).

6.616.3.4 virtual int decaf::internal::net::tcp::TcpSocketInputStream::doReadByte () [protected, virtual]

Implements **decaf::io::InputStream** (p. 1697).

6.616.3.5 virtual long long decaf::internal::net::tcp::TcpSocketInputStream::skip (long long *num*) [virtual]

Not supported. Skips over and discards n bytes of data from this input stream.

The skip method may, for a variety of reasons, end up skipping over some smaller number of bytes, possibly 0. This may result from any of a number of conditions; reaching end of file before n bytes have been skipped is only one possibility. The actual number of bytes skipped is returned.

The skip method of **InputStream** (p. 1694) creates a byte array and then repeatedly reads into it until num bytes have been read or the end of the stream has been reached. Subclasses are encouraged to provide a more efficient implementation of this method.

Parameters:

num The number of bytes to skip.

Returns:

total bytes skipped

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

UnsupportedOperationException if the concrete stream class does not support skipping bytes.

Reimplemented from **decaf::io::InputStream** (p. 1700).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/tcp/**TcpSocketInputStream.h**

6.617 decaf::internal::net::tcp::TcpSocketOutputStream Class Reference

Output stream for performing write operations on a socket.

`#include <src/main/decaf/internal/net/tcp/TcpSocketOutputStream.h>`Inheritance diagram for decaf::internal::net::tcp::TcpSocketOutputStream:

Public Member Functions

- **TcpSocketOutputStream** (**TcpSocket** *socket)

  Create a new instance of a Socket OutputStream class.

- virtual ~**TcpSocketOutputStream** ()
- virtual void **close** ()

  Closes this object and deallocates the appropriate resources.
  The object is generally no longer usable after calling close.
  Exceptions:

  IOException *(*p. ***1774****) if an error occurs while closing.*

  The default implementation of this method does nothing.

Protected Member Functions

- virtual void **doWriteByte** (unsigned char c)
- virtual void **doWriteArrayBounded** (const unsigned char *buffer, int size, int offset, int length)

6.617.1 Detailed Description

Output stream for performing write operations on a socket.

Since:

1.0

6.617.2 Constructor & Destructor Documentation

6.617.2.1 decaf::internal::net::tcp::TcpSocketOutputStream::TcpSocketOutputStream (TcpSocket * *socket*)

Create a new instance of a Socket OutputStream class.

Parameters:

socket The socket to use to write out the data.

6.617.2.2 virtual decaf::internal::net::tcp::TcpSocketOutputStream::~TcpSocketOutputStream () [virtual]

6.617.3 Member Function Documentation

6.617.3.1 virtual void decaf::internal::net::tcp::TcpSocketOutputStream::close () [virtual]

Closes this object and deallocates the appropriate resources.

The object is generally no longer usable after calling close.

Exceptions:

IOException *(p. 1774)* if an error occurs while closing.

The default implementation of this method does nothing. The default implementation of this method does nothing.

Reimplemented from **decaf::io::OutputStream** (p. 2334).

6.617.3.2 virtual void decaf::internal::net::tcp::TcpSocketOutputStream::doWriteArrayBounded (const unsigned char * *buffer*, int *size*, int *offset*, int *length*) [protected, virtual]

Reimplemented from **decaf::io::OutputStream** (p. 2335).

6.617.3.3 virtual void decaf::internal::net::tcp::TcpSocketOutputStream::doWriteByte (unsigned char *c*) [protected, virtual]

Implements **decaf::io::OutputStream** (p. 2335).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/tcp/**TcpSocketOutputStream.h**

6.618 activemq::transport::tcp::TcpTransport Class Reference

Implements a TCP/IP based **transport** (p. 72) filter, this **transport** (p. 72) is meant to wrap an instance of an **IOTransport** (p. 1777).

`#include <src/main/activemq/transport/tcp/TcpTransport.h>`Inheritance diagram for activemq::transport::tcp::TcpTransport:

Public Member Functions

- **TcpTransport** (const **Pointer**< **Transport** > **next**, const **decaf::net::URI** &location)

  *Creates a new instance of a **TcpTransport** (p. 2989), the **transport** (p. 72) is left unconnected and is in a unusable **state** (p. 70) until the connect method is called.*

- virtual ~**TcpTransport** ()
- void **setConnectTimeout** (int soConnectTimeout)
- int **getConnectTimeout** () const
- void **setOutputBufferSize** (int outputBufferSize)
- int **getOutputBufferSize** () const
- void **setInputBufferSize** (int inputBufferSize)
- int **getInputBufferSize** () const
- void **setTrace** (bool trace)
- bool **isTrace** () const
- void **setLinger** (int soLinger)
- int **getLinger** () const
- void **setKeepAlive** (bool soKeepAlive)
- bool **isKeepAlive** () const
- void **setReceiveBufferSize** (int soReceiveBufferSize)
- int **getReceiveBufferSize** () const
- void **setSendBufferSize** (int soSendBufferSize)
- int **getSendBufferSize** () const
- void **setTcpNoDelay** (bool tcpNoDelay)
- bool **isTcpNoDelay** () const
- virtual bool **isFaultTolerant** () const

  *Is this **Transport** (p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.*

- virtual bool **isConnected** () const

  *Is the **Transport** (p. 3109) Connected to its Broker.*

Protected Member Functions

- virtual void **beforeNextIsStarted** ()

  Subclasses can override this method to do their own startup work.

- virtual void **afterNextIsStopped** ()

Subclasses can override this method to do their own stop work.

- virtual void **doClose** ()

  Subclasses can override this method to do their own close work.

- void **connect** ()

  Creates a Socket and configures it before attempting to connect to the location specified by the URI passed in.

- virtual **decaf::net::Socket** * **createSocket** ()

  *Create an unconnected Socket instance to be used by the **transport** (p. 72) to communicate with the broker.*

- virtual void **configureSocket** (**decaf::net::Socket** *socket)

  Using options from configuration URI, configure the socket options before the Socket instance is connected to the Server.

6.618.1 Detailed Description

Implements a TCP/IP based **transport** (p. 72) filter, this **transport** (p. 72) is meant to wrap an instance of an **IOTransport** (p. 1777). The lower level **transport** (p. 72) should take care of managing stream reads and writes.

6.618.2 Constructor & Destructor Documentation

6.618.2.1 activemq::transport::tcp::TcpTransport::TcpTransport (const Pointer< Transport > *next*, const decaf::net::URI & *location*)

Creates a new instance of a **TcpTransport** (p. 2989), the **transport** (p. 72) is left unconnected and is in a unusable **state** (p. 70) until the connect method is called.

Parameters:

next The next **transport** (p. 72) in the chain

location The URI of the host this **transport** (p. 72) is to connect to.

6.618.2.2 virtual activemq::transport::tcp::TcpTransport::~TcpTransport () [virtual]

6.618.3 Member Function Documentation

6.618.3.1 virtual void activemq::transport::tcp::TcpTransport::afterNextIsStopped () [protected, virtual]

Subclasses can override this method to do their own stop work. This method is always called after all the next transports have been stopped to prevent this **transport** (p. 72) for destroying resources needed by the lower level transports.

Reimplemented from **activemq::transport::TransportFilter** (p. 3122).

6.618.3.2 virtual void activemq::transport::tcp::TcpTransport::beforeNextIsStarted () [protected, virtual]

Subclasses can override this method to do their own startup work. This method will always be called before the next **transport** (p. 72) in the chain is called in order to allow this **transport** (p. 72) a chance to initialize required resources.

Reimplemented from **activemq::transport::TransportFilter** (p. 3122).

6.618.3.3 virtual void activemq::transport::tcp::TcpTransport::configureSocket (decaf::net::Socket * *socket*) [protected, virtual]

Using options from configuration URI, configure the socket options before the Socket instance is connected to the Server. Subclasses can override this option to set more configuration options, they should called the base class version to allow the default set of Socket options to also be configured.

Parameters:

socket The Socket instance to configure using options from the given Properties.

Exceptions:

NullPointerException if the Socket instance is null.

IllegalArgumentException if the socket instance is not handled by the class.

SocketException if there is an error while setting one of the Socket options.

Reimplemented in **activemq::transport::tcp::SslTransport** (p. 2825).

6.618.3.4 void activemq::transport::tcp::TcpTransport::connect () [protected]

Creates a Socket and configures it before attempting to connect to the location specified by the URI passed in.

6.618.3.5 virtual decaf::net::Socket* activemq::transport::tcp::TcpTransport::createSocket () [protected, virtual]

Create an unconnected Socket instance to be used by the **transport** (p. 72) to communicate with the broker.

Returns:

a newly created unconnected Socket instance.

Exceptions:

IOException if there is an error while creating the unconnected Socket.

Reimplemented in **activemq::transport::tcp::SslTransport** (p. 2825).

6.618.3.6 virtual void activemq::transport::tcp::TcpTransport::doClose () [protected, virtual]

Subclasses can override this method to do their own close work. This method is always called after all the next transports have been closed to prevent this **transport** (p. 72) for destroying resources needed by the lower level transports.

Reimplemented from **activemq::transport::TransportFilter** (p. 3123).

6.618.3.7 int activemq::transport::tcp::TcpTransport::getConnectTimeout () const

6.618.3.8 int activemq::transport::tcp::TcpTransport::getInputBufferSize () const

6.618.3.9 int activemq::transport::tcp::TcpTransport::getLinger () const

6.618.3.10 int activemq::transport::tcp::TcpTransport::getOutputBufferSize () const

6.618.3.11 int activemq::transport::tcp::TcpTransport::getReceiveBufferSize () const

6.618.3.12 int activemq::transport::tcp::TcpTransport::getSendBufferSize () const

6.618.3.13 virtual bool activemq::transport::tcp::TcpTransport::isConnected () const [virtual]

Is the **Transport** (p. 3109) Connected to its Broker.

Returns:

true if a connection has been made.

Reimplemented from **activemq::transport::TransportFilter** (p. 3124).

6.618.3.14 virtual bool activemq::transport::tcp::TcpTransport::isFaultTolerant () const [inline, virtual]

Is this **Transport** (p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.

Returns:

true if the **Transport** (p. 3109) is fault tolerant.

Reimplemented from **activemq::transport::TransportFilter** (p. 3124).

6.618.3.15 bool activemq::transport::tcp::TcpTransport::isKeepAlive () const

6.618.3.16 bool activemq::transport::tcp::TcpTransport::isTcpNoDelay () const

6.618.3.17 bool activemq::transport::tcp::TcpTransport::isTrace () const

6.618.3.18 void activemq::transport::tcp::TcpTransport::setConnectTimeout (int *soConnectTimeout*)

6.618.3.19 void activemq::transport::tcp::TcpTransport::setInputBufferSize (int *inputBufferSize*)

6.618.3.20 void activemq::transport::tcp::TcpTransport::setKeepAlive (bool *soKeepAlive*)

6.618.3.21 void activemq::transport::tcp::TcpTransport::setLinger (int *soLinger*)

6.618.3.22 void activemq::transport::tcp::TcpTransport::setOutputBufferSize (int *outputBufferSize*)

6.618.3.23 void activemq::transport::tcp::TcpTransport::setReceiveBufferSize (int *soReceiveBufferSize*)

6.618.3.24 void activemq::transport::tcp::TcpTransport::setSendBufferSize (int *soSendBufferSize*)

6.618.3.25 void activemq::transport::tcp::TcpTransport::setTcpNoDelay (bool *tcpNoDelay*)

6.618.3.26 void activemq::transport::tcp::TcpTransport::setTrace (bool *trace*)

The documentation for this class was generated from the following file:

- src/main/activemq/transport/tcp/**TcpTransport.h**

6.619 activemq::transport::tcp::TcpTransportFactory Class Reference

Factory Responsible for creating the **TcpTransport** (p. 2989).

`#include <src/main/activemq/transport/tcp/TcpTransportFactory.h>`Inheritance diagram for activemq::transport::tcp::TcpTransportFactory:

Public Member Functions

- virtual ~**TcpTransportFactory** ()
- virtual **Pointer**< **Transport** > **create** (const **decaf::net::URI** &location)

  *Creates a fully configured **Transport** (p. 3109) instance which could be a chain of filters and transports.*

- virtual **Pointer**< **Transport** > **createComposite** (const **decaf::net::URI** &location)

  *Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.*

Protected Member Functions

- virtual **Pointer**< **Transport** > **doCreateComposite** (const **decaf::net::URI** &location, const **Pointer**< **wireformat::WireFormat** > wireFormat, const **decaf::util::Properties** &properties)
- virtual void **doConfigureTransport** (**Pointer**< **Transport** >, const **decaf::util::Properties** &properties)

6.619.1 Detailed Description

Factory Responsible for creating the **TcpTransport** (p. 2989).

6.619.2 Constructor & Destructor Documentation

6.619.2.1 virtual activemq::transport::tcp::TcpTransportFactory::~TcpTransportFactory () [inline, virtual]

6.619.3 Member Function Documentation

6.619.3.1 virtual Pointer<Transport> activemq::transport::tcp::TcpTransportFactory::create (const decaf::net::URI & *location*) [virtual]

Creates a fully configured **Transport** (p. 3109) instance which could be a chain of filters and transports.

Parameters:

location - URI location to connect to plus any properties to assign.

Exceptions:

ActiveMQexception if an error occurs

Implements **activemq::transport::TransportFactory** (p. 3117).

6.619.3.2 virtual Pointer<Transport> activemq::transport::tcp::TcpTransportFactory::createComposite (const decaf::net::URI & *location*) [virtual]

Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.

Parameters:

location - URI location to connect to plus any properties to assign.

Exceptions:

ActiveMQexception if an error occurs

Implements **activemq::transport::TransportFactory** (p. 3118).

6.619.3.3 virtual void activemq::transport::tcp::TcpTransportFactory::doConfigureTransport (Pointer< Transport >, const decaf::util::Properties & *properties*) [protected, virtual]

6.619.3.4 virtual Pointer<Transport> activemq::transport::tcp::TcpTransportFactory::doCreateComposite (const decaf::net::URI & *location*, const Pointer< wireformat::WireFormat > *wireFormat*, const decaf::util::Properties & *properties*) [protected, virtual]

Reimplemented in **activemq::transport::tcp::SslTransportFactory** (p. 2827).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/tcp/**TcpTransportFactory.h**

6.620 cms::TemporaryQueue Class Reference

Defines a Temporary **Queue** (p. 2499) based **Destination** (p. 1371).

`#include <src/main/cms/TemporaryQueue.h>`Inheritance diagram for cms::TemporaryQueue:

Public Member Functions

- virtual ~**TemporaryQueue** ()
- virtual void **destroy** ()=0

  *Destroy's the Temporary **Destination** (p. 1371) at the Provider.*

6.620.1 Detailed Description

Defines a Temporary **Queue** (p. 2499) based **Destination** (p. 1371). A **TemporaryQueue** (p. 2996) is a special type of **Queue** (p. 2499) **Destination** (p. 1371) that can only be consumed from the **Connection** (p. 1083) which created it. TemporaryQueues are most commonly used as the reply to address for Message's that implement the request response pattern.

A **TemporaryQueue** (p. 2996) is guaranteed to exist at the Provider only for the lifetime of the **Connection** (p. 1083) that created it.

Since:

1.0

6.620.2 Constructor & Destructor Documentation

6.620.2.1 virtual cms::TemporaryQueue::~TemporaryQueue () [virtual]

6.620.3 Member Function Documentation

6.620.3.1 virtual void cms::TemporaryQueue::destroy () [pure virtual]

Destroy's the Temporary **Destination** (p. 1371) at the Provider.

Exceptions:

***CMSException** (p. 973)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQTempQueue** (p. 497).

The documentation for this class was generated from the following file:

- src/main/cms/**TemporaryQueue.h**

6.621 cms::TemporaryTopic Class Reference

Defines a Temporary **Topic** (p. 3080) based **Destination** (p. 1371).

`#include <src/main/cms/TemporaryTopic.h>`Inheritance diagram for cms::TemporaryTopic:

Public Member Functions

- virtual ~**TemporaryTopic** ()
- virtual void **destroy** ()=0

  *Destroy's the Temporary **Destination** (p. 1371) at the Provider.*

6.621.1 Detailed Description

Defines a Temporary **Topic** (p. 3080) based **Destination** (p. 1371). A **TemporaryTopic** (p. 2997) is a special type of **Topic** (p. 3080) **Destination** (p. 1371) that can only be consumed from the **Connection** (p. 1083) which created it. TemporaryTopics are most commonly used as the reply to address for Message's that implement the request response pattern.

A **TemporaryTopic** (p. 2997) is guaranteed to exist at the Provider only for the lifetime of the **Connection** (p. 1083) that created it.

Since:

1.0

6.621.2 Constructor & Destructor Documentation

6.621.2.1 virtual cms::TemporaryTopic::~TemporaryTopic () [virtual]

6.621.3 Member Function Documentation

6.621.3.1 virtual void cms::TemporaryTopic::destroy () [pure virtual]

Destroy's the Temporary **Destination** (p. 1371) at the Provider.

Exceptions:

***CMSException** (p. 973)*

Implemented in **activemq::commands::ActiveMQTempTopic** (p. 505).

The documentation for this class was generated from the following file:

- src/main/cms/**TemporaryTopic.h**

6.622 cms::TextMessage Class Reference

Interface for a text message.

`#include <src/main/cms/TextMessage.h>`Inheritance diagram for cms::TextMessage:

Public Member Functions

- virtual ~**TextMessage** ()
- virtual std::string **getText** () const =0

  Gets the message character buffer.

- virtual void **setText** (const char *msg)=0

  Sets the message contents, does not take ownership of the passed char, but copies it instead.*

- virtual void **setText** (const std::string &msg)=0

  Sets the message contents.

6.622.1 Detailed Description

Interface for a text message. A **TextMessage** (p. 2998) can contain any Text based pay load such as an XML Document or other Text based document.

Like all Messages, a **TextMessage** (p. 2998) is received in Read-Only mode, any attempt to write to the **Message** (p. 2077) will result in a MessageNotWritableException being thrown until the `clearBody` method is called which will erase the contents and place the message back in a read / write mode.

Since:

1.0

6.622.2 Constructor & Destructor Documentation

6.622.2.1 virtual cms::TextMessage::~TextMessage () [virtual]

6.622.3 Member Function Documentation

6.622.3.1 virtual std::string cms::TextMessage::getText () const [pure virtual]

Gets the message character buffer.

Returns:

The message character buffer.

Exceptions:

CMSException *(*p. *973)* - if an internal error occurs.

Implemented in **activemq::commands::ActiveMQTextMessage** (p. 515).

6.622.3.2 virtual void cms::TextMessage::setText (const std::string & *msg*) [pure virtual]

Sets the message contents.

Parameters:

msg The message buffer.

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode..

Implemented in **activemq::commands::ActiveMQTextMessage** (p. 515).

6.622.3.3 virtual void cms::TextMessage::setText (const char * *msg*) [pure virtual]

Sets the message contents, does not take ownership of the passed char*, but copies it instead.

Parameters:

msg The message buffer.

Exceptions:

CMSException (p. ***973***) - if an internal error occurs.

MessageNotWriteableException (p. ***2177***) - if the message is in read-only mode..

Implemented in **activemq::commands::ActiveMQTextMessage** (p. 515).

The documentation for this class was generated from the following file:

- src/main/cms/**TextMessage.h**

6.623 decaf::lang::Thread Class Reference

A **Thread** (p. 3000) is a concurrent unit of execution.

`#include <src/main/decaf/lang/Thread.h>`Inheritance diagram for decaf::lang::Thread:

Data Structures

- class **UncaughtExceptionHandler**

  *Interface for handlers invoked when a **Thread** (p. 3000) abruptly terminates due to an uncaught exception.*

Public Types

- enum **State** {
  NEW = 0, **RUNNABLE** = 1, **BLOCKED** = 2, **WAITING** = 3,
  TIMED_WAITING = 4, **SLEEPING** = 5, **TERMINATED** = 6 }

  *Represents the various states that the **Thread** (p. 3000) can be in during its lifetime.*

Public Member Functions

- **Thread** ()

  *Constructs a new **Thread** (p. 3000).*

- **Thread** (**Runnable** *task)

  *Constructs a new **Thread** (p. 3000) with the given target **Runnable** (p. 2607) task.*

- **Thread** (const std::string &name)

  *Constructs a new **Thread** (p. 3000) with the given name.*

- **Thread** (**Runnable** *task, const std::string &name)

  *Constructs a new **Thread** (p. 3000) with the given target **Runnable** (p. 2607) task and name.*

- **Thread** (**Runnable** *task, const std::string &name, long long stackSize)

  *Constructs a new **Thread** (p. 3000) with the given target **Runnable** (p. 2607) task and name.*

- virtual ~**Thread** ()
- virtual void **start** ()

  Creates a system thread and starts it in a joinable mode.

- virtual void **join** ()

  *Forces the Current **Thread** (p. 3000) to wait until the thread exits.*

- virtual void **join** (long long millisecs)

  *Forces the Current **Thread** (p. 3000) to wait until the thread exits.*

- virtual void **join** (long long millisecs, int nanos)

  Forces the Current ***Thread*** (p. *3000) to wait until the thread exits.*

- virtual void **run** ()

  Default implementation of the run method - does nothing.

- long long **getId** () const

  Obtains the ***Thread*** (p. *3000) Id of the current thread, this value is OS specific but is guaranteed not to change for the lifetime of this thread.*

- std::string **getName** () const

  Returns the Thread's assigned name.

- void **setName** (const std::string &name)

  Sets the name of the ***Thread*** (p. *3000) to the new Name given by the argument name.*

- int **getPriority** () const

  Gets the currently set priority for this ***Thread*** (p. *3000).*

- void **setPriority** (int value)

  Sets the current Thread's priority to the newly specified value.

- **UncaughtExceptionHandler** * **getUncaughtExceptionHandler** () const

  Set the handler invoked when this thread abruptly terminates due to an uncaught exception.

- void **setUncaughtExceptionHandler** (**UncaughtExceptionHandler** *handler)

  Set the handler invoked when this thread abruptly terminates due to an uncaught exception.

- std::string **toString** () const

  Returns a string that describes the ***Thread*** (p. *3000).*

- bool **isAlive** () const

  Returns true if the ***Thread*** (p. *3000) is alive, meaning it has been started and has not yet died.*

- **Thread::State getState** () const

  Returns the currently set State of this ***Thread*** (p. *3000).*

- void **interrupt** ()

  Interrupts the ***Thread*** (p. *3000) if it is blocked and in an interruptible state.*

- bool **isInterrupted** () const

  Returns but does not clear the state of this Thread's interrupted flag.

Static Public Member Functions

- static void **sleep** (long long millisecs)

  Causes the currently executing thread to halt execution for the specified number of milliseconds, subject to the precision and accuracy of system timers and schedulers.

- static void **sleep** (long long millisecs, int nanos)

  Causes the currently executing thread to halt execution for the specified number of milliseconds plus any additionally specified nanoseconds given, subject to the precision and accuracy of system timers and schedulers.

- static void **yield** ()

  Causes the currently executing thread object to temporarily pause and allow other threads to execute.

- static **Thread** * **currentThread** ()

  Returns a pointer to the currently executing thread object.

- static bool **interrupted** ()

  Returns whether the thread has been interrupted and clears the interrupted state such that a subsequent call will return false unless an interrupt occurs between the two calls.

- static **UncaughtExceptionHandler** * **getDefaultUncaughtExceptionHandler** ()

  *Set the default handler invoked when a thread abruptly terminates due to an uncaught exception, this handler is used only if there is no other handler defined for the **Thread** (p. 3000).*

- static void **setDefaultUncaughtExceptionHandler** (**UncaughtExceptionHandler** *handler)

  Set the default handler invoked when a thread abruptly terminates due to an uncaught exception,.

Static Public Attributes

- static const int **MIN_PRIORITY** = 1

  The minimum priority that a thread can have.

- static const int **NORM_PRIORITY** = 5

  The default priority that a thread is given at create time.

- static const int **MAX_PRIORITY** = 10

  The maximum priority that a thread can have.

Friends

- class **decaf::internal::util::concurrent::Threading**
- class **ThreadGroup**

6.623.1 Detailed Description

A **Thread** (p. 3000) is a concurrent unit of execution. It has its own call stack for methods being invoked, their arguments and local variables. Each process has at least one main **Thread** (p. 3000) running when it is started; typically, there are several others for housekeeping. The application might decide to launch additional Threads for specific purposes.

Threads in the same process interact and synchronize by the use of shared objects and monitors associated with these objects.

There are basically two main ways of having a **Thread** (p. 3000) execute application **code** (p. 999). One is providing a new class that extends **Thread** (p. 3000) and overriding its **run()** (p. 3007) method. The other is providing a new **Thread** (p. 3000) instance with a **Runnable** (p. 2607) object during its creation. In both cases, the **start()** (p. 3009) method must be called to actually execute the new **Thread** (p. 3000).

Each **Thread** (p. 3000) has an integer priority that basically determines the amount of CPU time the **Thread** (p. 3000) gets. It can be set using the **setPriority(int)** (p. 3008) method.

See also:

decaf.lang.ThreadGroup (p. 3013)

Since:

1.0

6.623.2 Member Enumeration Documentation

6.623.2.1 enum decaf::lang::Thread::State

Represents the various states that the **Thread** (p. 3000) can be in during its lifetime.

Enumerator:

NEW Before a **Thread** (p. 3000) is started it exists in this State.

RUNNABLE While a **Thread** (p. 3000) is running and is not blocked it is in this State.

BLOCKED A **Thread** (p. 3000) that is waiting to acquire a lock is in this state.

WAITING A **Thread** (p. 3000) that is waiting for another **Thread** (p. 3000) to perform an action is in this state.

TIMED_WAITING A **Thread** (p. 3000) that is waiting for another **Thread** (p. 3000) to perform an action up to a specified time interval is in this state.

SLEEPING A **Thread** (p. 3000) that is blocked in a Sleep call is in this state.

TERMINATED A **Thread** (p. 3000) whose run method has exited is in this state.

6.623.3 Constructor & Destructor Documentation

6.623.3.1 decaf::lang::Thread::Thread ()

Constructs a new **Thread** (p. 3000). This constructor has the same effect as Thread(NULL, NULL, GIVEN_NAME), where GIVEN_NAME is a newly generated name. When no name is given the name is automatically generated and are of the form "Thread-"+n, where n is an integer.

6.623.3.2 decaf::lang::Thread::Thread (Runnable * *task*)

Constructs a new **Thread** (p. 3000) with the given target **Runnable** (p. 2607) task. This constructor has the same effect as Thread(NULL, task, GIVEN_NAME), where GIVEN_NAME is a newly generated name. When no name is given the name is automatically generated and are of the form "Thread-"+n, where n is an integer.

Parameters:

task the **Runnable** (p. 2607) that this thread manages, if the task is NULL the Thread's run method is used instead.

6.623.3.3 decaf::lang::Thread::Thread (const std::string & *name*)

Constructs a new **Thread** (p. 3000) with the given name. This constructor has the same effect as Thread(NULL, NULL, GIVEN_NAME), where GIVEN_NAME is a newly generated name. When no name is given the name is automatically generated and are of the form "Thread-"+n, where n is an integer.

Parameters:

name the name to assign to this **Thread** (p. 3000).

6.623.3.4 decaf::lang::Thread::Thread (Runnable * *task*, const std::string & *name*)

Constructs a new **Thread** (p. 3000) with the given target **Runnable** (p. 2607) task and name. This constructor has the same effect as Thread(NULL, task, GIVEN_NAME), where GIVEN_NAME is a newly generated name. When no name is given the name is automatically generated and are of the form "Thread-"+n, where n is an integer.

Parameters:

task the **Runnable** (p. 2607) that this thread manages, if the task is NULL the Thread's run method is used instead.

name the name to assign to this **Thread** (p. 3000).

6.623.3.5 decaf::lang::Thread::Thread (Runnable * *task*, const std::string & *name*, long long *stackSize*)

Constructs a new **Thread** (p. 3000) with the given target **Runnable** (p. 2607) task and name. This constructor has the same effect as Thread(NULL, task, GIVEN_NAME), where GIVEN_NAME is a newly generated name. When no name is given the name is automatically generated and are of the form "Thread-"+n, where n is an integer.

The stack size option is platform independent and may have no effect on the newly created thread on some systems. If the value given is invalid on the system a RuntimeException is thrown, the stack size can be invalid if it is outside the allowed range or doesn't match the size of the system page size on some system.

Parameters:

task The **Runnable** (p. 2607) that this thread manages, if the task is NULL the Thread's run method is used instead.

name The name to assign to this **Thread** (p. 3000).

stackSize The size of the newly allocated thread's stack.

6.623.3.6 virtual decaf::lang::Thread::~Thread () [virtual]

6.623.4 Member Function Documentation

6.623.4.1 static Thread* decaf::lang::Thread::currentThread () [static]

Returns a pointer to the currently executing thread object.

Returns:

Pointer (p. 2355) to the **Thread** (p. 3000) object representing the currently running **Thread** (p. 3000).

6.623.4.2 static UncaughtExceptionHandler* decaf::lang::Thread::getDefaultUncaughtExceptionHandler () [static]

Set the default handler invoked when a thread abruptly terminates due to an uncaught exception, this handler is used only if there is no other handler defined for the **Thread** (p. 3000). This method will return NULL if no handler has ever been set, or the handler is cleared via a call to the setDefaultUncaughtExceptionHandler method will NULL as the value of the handler argument.

Returns:

a pointer to the default **UncaughtExceptionHandler** (p. 3137) for all Threads.

6.623.4.3 long long decaf::lang::Thread::getId () const

Obtains the **Thread** (p. 3000) Id of the current thread, this value is OS specific but is guaranteed not to change for the lifetime of this thread.

Returns:

Thread (p. 3000) Id of this **Thread** (p. 3000) instance.

6.623.4.4 std::string decaf::lang::Thread::getName () const

Returns the Thread's assigned name.

Returns:

the Name of the **Thread** (p. 3000).

6.623.4.5 int decaf::lang::Thread::getPriority () const

Gets the currently set priority for this **Thread** (p. 3000).

Returns:

an int value representing the Thread's current priority.

6.623.4.6 Thread::State decaf::lang::Thread::getState () const

Returns the currently set State of this **Thread** (p. 3000).

Returns:

the Thread's current state.

6.623.4.7 UncaughtExceptionHandler* decaf::lang::Thread::getUncaughtExceptionHandler () const

Set the handler invoked when this thread abruptly terminates due to an uncaught exception.

Returns:

a pointer to the set **UncaughtExceptionHandler** (p. 3137).

6.623.4.8 void decaf::lang::Thread::interrupt ()

Interrupts the **Thread** (p. 3000) if it is blocked and in an interruptible state. When the thread is in one of its own join or sleep methods or blocked by a call to a monitor or mutex wait call it will clear its interrupted flag and and an InterruptedException will be thrown.

In other cases the thread's interrupted status will be set and an instance of an InterruptedException may be thrown.

If the thread is not alive when this method is called there is no affect.

6.623.4.9 static bool decaf::lang::Thread::interrupted () [static]

Returns whether the thread has been interrupted and clears the interrupted state such that a subsequent call will return false unless an interrupt occurs between the two calls.

Returns:

true if the thread was interrupted, false otherwise.

6.623.4.10 bool decaf::lang::Thread::isAlive () const

Returns true if the **Thread** (p. 3000) is alive, meaning it has been started and has not yet died.

Returns:

true if the thread is alive.

6.623.4.11 bool decaf::lang::Thread::isInterrupted () const

Returns but does not clear the state of this Thread's interrupted flag.

Returns:

true if the thread was interrupted, false otherwise.

6.623.4.12 virtual void decaf::lang::Thread::join (long long *millisecs*, int *nanos*) [virtual]

Forces the Current **Thread** (p. 3000) to wait until the thread exits.

Parameters:

millisecs the time in Milliseconds before the thread resumes

nanos 0-999999 extra nanoseconds to sleep.

Exceptions:

IllegalArgumentException if the nanoseconds parameter is out of range or the milliseconds paramter is negative.

InterruptedException if any thread has interrupted the current thread. The interrupted status of the current thread is cleared when this exception is thrown.

6.623.4.13 virtual void decaf::lang::Thread::join (long long *millisecs*) [virtual]

Forces the Current **Thread** (p. 3000) to wait until the thread exits.

Parameters:

millisecs the time in Milliseconds before the thread resumes

Exceptions:

IllegalArgumentException if the milliseconds parameter is negative.

InterruptedException if any thread has interrupted the current thread. The interrupted status of the current thread is cleared when this exception is thrown.

6.623.4.14 virtual void decaf::lang::Thread::join () [virtual]

Forces the Current **Thread** (p. 3000) to wait until the thread exits.

Exceptions:

InterruptedException if any thread has interrupted the current thread. The interrupted status of the current thread is cleared when this exception is thrown.

6.623.4.15 virtual void decaf::lang::Thread::run () [virtual]

Default implementation of the run method - does nothing.

Implements **decaf::lang::Runnable** (p. 2607).

Reimplemented in **activemq::transport::mock::InternalCommandListener** (p. 1752).

6.623.4.16 static void decaf::lang::Thread::setDefaultUncaughtExceptionHandler (UncaughtExceptionHandler * *handler*) [static]

Set the default handler invoked when a thread abruptly terminates due to an uncaught exception,.

Parameters:

handler The UncaightExceptionHandler to invoke when a **Thread** (p. 3000) terminates due to an uncaught exception, passing NULL clears this value.

6.623.4.17 void decaf::lang::Thread::setName (const std::string & *name*)

Sets the name of the **Thread** (p. 3000) to the new Name given by the argument *name*. name the new name of the **Thread** (p. 3000).

6.623.4.18 void decaf::lang::Thread::setPriority (int *value*)

Sets the current Thread's priority to the newly specified value. The given value must be within the range **Thread::MIN_PRIORITY** (p. 3010) and **Thread::MAX_PRIORITY** (p. 3010).

Parameters:

value the new priority value to assign to this **Thread** (p. 3000).

Exceptions:

IllegalArgumentException if the value is out of range.

6.623.4.19 void decaf::lang::Thread::setUncaughtExceptionHandler (UncaughtExceptionHandler * *handler*)

Set the handler invoked when this thread abruptly terminates due to an uncaught exception.

Parameters:

handler the UncaightExceptionHandler to invoke when the **Thread** (p. 3000) terminates due to an uncaught exception.

6.623.4.20 static void decaf::lang::Thread::sleep (long long *millisecs*, int *nanos*) [static]

Causes the currently executing thread to halt execution for the specified number of milliseconds plus any additionally specified nanoseconds given, subject to the precision and accuracy of system timers and schedulers. Note that this method is a static method that applies to the calling thread and not to the thread object.

Parameters:

millisecs time in milliseconds to halt execution.

nanos 0-999999 extra nanoseconds to sleep.

Exceptions:

IllegalArgumentException if the nanoseconds parameter is out of range or the milliseconds paramter is negative.

InterruptedException if the **Thread** (p. 3000) was interrupted while sleeping.

6.623.4.21 static void decaf::lang::Thread::sleep (long long *millisecs*) [static]

Causes the currently executing thread to halt execution for the specified number of milliseconds, subject to the precision and accuracy of system timers and schedulers. Note that this method is a static method that applies to the calling thread and not to the thread object.

Parameters:

millisecs time in milliseconds to halt execution.

Exceptions:

IllegalArgumentException if the milliseconds parameter is negative.

InterruptedException if the **Thread** (p. 3000) was interrupted while sleeping.

6.623.4.22 virtual void decaf::lang::Thread::start () [virtual]

Creates a system thread and starts it in a joinable mode. Upon creation, the **run()** (p. 3007) method of either this object or the provided **Runnable** (p. 2607) object will be invoked in the context of this thread.

Exceptions:

IllegalThreadStateException if the thread has already been started.

RuntimeException if the **Thread** (p. 3000) cannot be created for some reason.

6.623.4.23 std::string decaf::lang::Thread::toString () const

Returns a string that describes the **Thread** (p. 3000).

Returns:

string describing the **Thread** (p. 3000).

6.623.4.24 static void decaf::lang::Thread::yield () [static]

Causes the currently executing thread object to temporarily pause and allow other threads to execute.

6.623.5 Friends And Related Function Documentation

6.623.5.1 friend class decaf::internal::util::concurrent::Threading [friend]

6.623.5.2 friend class ThreadGroup [friend]

6.623.6 Field Documentation

6.623.6.1 const int decaf::lang::Thread::MAX_PRIORITY = 10 [static]

The maximum priority that a thread can have.

6.623.6.2 const int decaf::lang::Thread::MIN_PRIORITY = 1 [static]

The minimum priority that a thread can have.

6.623.6.3 const int decaf::lang::Thread::NORM_PRIORITY = 5 [static]

The default priority that a thread is given at create time.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Thread.h**

6.624 decaf::util::concurrent::ThreadFactory Class Reference

public interface **ThreadFactory** (p. 3011)

`#include <src/main/decaf/util/concurrent/ThreadFactory.h>`

Public Member Functions

- virtual ~**ThreadFactory** ()
- virtual **decaf::lang::Thread** * **newThread** (**decaf::lang::Runnable** *r)=0

  Constructs a new Thread.

6.624.1 Detailed Description

public interface **ThreadFactory** (p. 3011) An object that creates new threads on demand. Using thread factories removes hardwiring of calls to new Thread, enabling applications to use special thread subclasses, priorities, etc.

The simplest implementation of this interface is just:

class SimpleThreadFactory : public **ThreadFactory** (p. 3011) { public: Thread* newThread(Runnable* r) { return new Thread(r); } }

The Executors.defaultThreadFactory() method provides a more useful simple implementation, that sets the created thread context to known values before returning it.

Since:

1.0

6.624.2 Constructor & Destructor Documentation

6.624.2.1 virtual decaf::util::concurrent::ThreadFactory::~ThreadFactory () [inline, virtual]

6.624.3 Member Function Documentation

6.624.3.1 virtual decaf::lang::Thread* decaf::util::concurrent::ThreadFactory::newThread (decaf::lang::Runnable * r) [pure virtual]

Constructs a new Thread. Implementations may also initialize priority, name, daemon status, ThreadGroup, etc. The pointer passed is still owned by the caller and is not deleted by the Thread object. The caller owns the returned Thread object and must delete it when finished.

Parameters:

r A pointer to a Runnable instance to be executed by new Thread instance returned.

Returns:

constructed thread, or NULL if the request to create a thread is rejected the caller owns the returned pointer.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ThreadFactory.h**

6.625 decaf::lang::ThreadGroup Class Reference

`#include <src/main/decaf/lang/ThreadGroup.h>`

Public Member Functions

- **ThreadGroup** ()
- virtual ~**ThreadGroup** ()

6.625.1 Detailed Description

Since:

1.0

6.625.2 Constructor & Destructor Documentation

6.625.2.1 decaf::lang::ThreadGroup::ThreadGroup ()

6.625.2.2 virtual decaf::lang::ThreadGroup::~ThreadGroup () [virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**ThreadGroup.h**

6.626 decaf::internal::util::concurrent::ThreadHandle Struct Reference

`#include <src/main/decaf/internal/util/concurrent/ThreadingTypes.h>`

Data Fields

- **decaf::lang::Thread** * **parent**
- **decaf_thread_t handle**
- **decaf_mutex_t mutex**
- **decaf_condition_t condition**
- volatile int **state**
- volatile int **references**
- int **priority**
- bool **interrupted**
- bool **interruptible**
- bool **timerSet**
- bool **canceled**
- bool **unparked**
- bool **parked**
- bool **sleeping**
- bool **waiting**
- bool **notified**
- bool **blocked**
- bool **suspended**
- char * **name**
- long long **stackSize**
- void * **tls** [DECAF_MAX_TLS_SLOTS]
- **threadingTask threadMain**
- void * **threadArg**
- long long **threadId**
- bool **osThread**
- **ThreadHandle** * **interruptingThread**
- int **numAttached**
- **ThreadHandle** * **next**
- **ThreadHandle** * **joiners**
- **MonitorHandle** * **monitor**

6.626.1 Field Documentation

6.626.1.1 bool decaf::internal::util::concurrent::ThreadHandle::blocked

6.626.1.2 bool decaf::internal::util::concurrent::ThreadHandle::canceled

6.626.1.3 decaf_condition_t decaf::internal::util::concurrent::ThreadHandle::condition

6.626.1.4 decaf_thread_t decaf::internal::util::concurrent::ThreadHandle::handle

6.626.1.5 bool decaf::internal::util::concurrent::ThreadHandle::interrupted

6.626.1.6 bool decaf::internal::util::concurrent::ThreadHandle::interruptible

6.626.1.7 ThreadHandle* decaf::internal::util::concurrent::ThreadHandle::interruptingThread

6.626.1.8 ThreadHandle* decaf::internal::util::concurrent::ThreadHandle::joiners

6.626.1.9 MonitorHandle* decaf::internal::util::concurrent::ThreadHandle::monitor

6.626.1.10 decaf_mutex_t decaf::internal::util::concurrent::ThreadHandle::mutex

6.626.1.11 char* decaf::internal::util::concurrent::ThreadHandle::name

6.626.1.12 ThreadHandle* decaf::internal::util::concurrent::ThreadHandle::next

6.626.1.13 bool decaf::internal::util::concurrent::ThreadHandle::notified

6.626.1.14 int decaf::internal::util::concurrent::ThreadHandle::numAttached

6.626.1.15 bool decaf::internal::util::concurrent::ThreadHandle::osThread

6.626.1.16 decaf::lang::Thread* decaf::internal::util::concurrent::ThreadHandle::parent

6.626.1.17 bool decaf::internal::util::concurrent::ThreadHandle::parked

6.626.1.18 int decaf::internal::util::concurrent::ThreadHandle::priority

6.626.1.19 volatile int decaf::internal::util::concurrent::ThreadHandle::references

6.626.1.20 bool decaf::internal::util::concurrent::ThreadHandle::sleeping

6.626.1.21 long long decaf::internal::util::concurrent::ThreadHandle::stackSize

6.626.1.22 volatile int decaf::internal::util::concurrent::ThreadHandle::state

6.626.1.23 bool decaf::internal::util::concurrent::ThreadHandle::suspended

6.626.1.24 void* decaf::internal::util::concurrent::ThreadHandle::threadArg

6.626.1.25 long long decaf::internal::util::concurrent::ThreadHandle::threadId

6.626.1.26 threadingTask* decaf::internal::util::concurrent::ThreadHandle::threadMain

6.626.1.27 bool decaf::internal::util::concurrent::ThreadHandle::timerSet

6.626.1.28 void* decaf::internal::util::concurrent::ThreadHandle::tls[DECAF_-MAX_TLS_SLOTS]

- src/main/decaf/internal/util/concurrent/**ThreadingTypes.h**

6.627 decaf::internal::util::concurrent::Threading Class Reference

`#include <src/main/decaf/internal/util/concurrent/Threading.h>`

Static Public Member Functions

- static void **initialize** ()

  Called by the Decaf Runtime at startup to allow the Platform ***Threading*** *(p. 3017)* ***code*** *(p. 999) to initialize any necessary* ***Threading*** *(p. 3017) constructs needed to support the features of this class.*

- static void **shutdown** ()

  Called by the Decaf Runtime at Shutdown to allow the Platform ***Threading*** *(p. 3017)* ***code*** *(p. 999) to return any resources that were allocated at startup for the* ***Threading*** *(p. 3017) library.*

- static void **lockThreadsLib** ()

  Locks the ***Threading*** *(p. 3017) library allowing an object to perform some operations safely in a multi-threaded environment.*

- static void **unlockThreadsLib** ()

  Unlocks the ***Threading*** *(p. 3017) library when locked.*

- static void **dumpRunningThreads** ()

  Diagnostic method dumps all threads info to console.

- static **MonitorHandle** * **takeMonitor** (bool alreadyLocked=false)

  Gets a monitor for use as a locking mechanism.

- static void **returnMonitor** (**MonitorHandle** *monitor, bool alreadyLocked=false)

  Returns a given monitor to the Monitor pool after the Monitor is no longer needed.

- static void **enterMonitor** (**MonitorHandle** *monitor)

  Monitor locking method.

- static bool **tryEnterMonitor** (**MonitorHandle** *monitor)

  Monitor locking method.

- static void **exitMonitor** (**MonitorHandle** *monitor)

  Exit the acquired monitor giving up the lock that is held and allowing other threads to acquire the monitor.

- static bool **waitOnMonitor** (**MonitorHandle** *monitor, long long mills, int nanos)

  Waits on a monitor to be signaled by another thread.

- static void **notifyWaiter** (**MonitorHandle** *monitor)

  Notify a single waiter on the given Monitor instance, if there is no thread currently waiting on the specified monitor then no action is taken.

- static void **notifyAllWaiters** (**MonitorHandle** *monitor)

  Notifies all waiting threads for the given Monitor.

- static bool **isMonitorLocked** (**MonitorHandle** *monitor)

  Query the monitor object to determine if it is currently locked.

- static **ThreadHandle** * **createNewThread** (**Thread** *parant, const char *name, long long stackSize)

  Creates a new thread instance with the given Thread object as its parent, assigning it the given name and stack size.

- static void **start** (**ThreadHandle** *thread)

  Starts the given thread running, if the thread is already running then this method has no effect.

- static bool **join** (**ThreadHandle** *thread, long long mills, int nanos)

  Joins the given thread instance and waits for it to either terminate or for the given timeout period to expire.

- static void **interrupt** (**ThreadHandle** *thread)
- static bool **interrupted** ()
- static bool **isInterrupted** (**ThreadHandle** *thread, bool reset)
- static void **yeild** ()
- static bool **sleep** (long long mills, int nanos)
- static long long **getThreadId** (**ThreadHandle** *thread)
- static int **getThreadPriority** (**ThreadHandle** *thread)
- static void **setThreadPriority** (**ThreadHandle** *thread, int priority)
- static const char * **getThreadName** (**ThreadHandle** *thread)
- static void **setThreadName** (**ThreadHandle** *thread, const char *name)
- static **Thread::State** **getThreadState** (**ThreadHandle** *thread)
- static bool **isThreadAlive** (**ThreadHandle** *thread)
- static void **destroyThread** (**ThreadHandle** *thread)
- static **ThreadHandle** * **createThreadWrapper** (**decaf::lang::Thread** *parent, const char *name)

  *Creates and returns a **ThreadHandle** (p. 3014) that references the currently running thread.*

- static **Thread** * **getCurrentThread** ()
- static **ThreadHandle** * **getCurrentThreadHandle** ()
- static void **park** (**Thread** *thread)

  Removes the given thread from scheduling unless a call to unpark has already reset the park token in which case this method simple consumes the unpark token and returned.

- static bool **park** (**Thread** *thread, long long mills, int nanos)

  Removes the given thread from scheduling unless a call to unpark has already reset the park token in which case this method simple consumes the unpark token and returned.

- static void **unpark** (**Thread** *thread)

  If the target thread is not currently parked then this method sets the un-park token for the thread and returns.

- static int **createThreadLocalSlot** (**ThreadLocalImpl** *threadLocal)

*Allocates a slot in the library for a new **ThreadLocalImpl** (p. 3029) to store its values for each thread.*

- static void * **getThreadLocalValue** (int slot)
- static void **setThreadLocalValue** (int slot, void *value)
- static void **destoryThreadLocalSlot** (int slot)

6.627.1 Member Function Documentation

6.627.1.1 static ThreadHandle* decaf::internal::util::concurrent::Threading::createNewThread (Thread * *parant*, const char * *name*, long long *stackSize*) [static]

Creates a new thread instance with the given Thread object as its parent, assigning it the given name and stack size. The Thread class provides its own main Runnable for executing task.

Parameters:

parent The parent Thread object that the new thread is owned by.

name Name given to the new Thread, used for debugging purposes.

stackSize The size to allocate for the new thread's stack.

Returns:

a new **ThreadHandle** (p. 3014) that identifies the thread and allows the parent to interact with it.

6.627.1.2 static int decaf::internal::util::concurrent::Threading::createThreadLocalSlot (ThreadLocalImpl * *threadLocal*) [static]

Allocates a slot in the library for a new **ThreadLocalImpl** (p. 3029) to store its values for each thread. The parent **ThreadLocalImpl** (p. 3029) is stored so that the library can call each **ThreadLocalImpl** (p. 3029) to cleanup its resources if there are active objects at the time the library is shutdown or the Thread terminates.

Parameters:

threadLocal The **ThreadLocalImpl** (p. 3029) to assign a storage slot.

Returns:

a new storage slot Id for the given ThreadLocalImpl's value to be assigned.

6.627.1.3 static ThreadHandle* decaf::internal::util::concurrent::Threading::createThreadWrapper (decaf::lang::Thread * *parent*, const char * *name*) [static]

Creates and returns a **ThreadHandle** (p. 3014) that references the currently running thread. This method is called to obtain a **ThreadHandle** (p. 3014) that references an thread that was not created using the Decaf Thread class. A parent Thread instance is passed to associate with the target thread so that a call to getCurrentThread can return a Decaf Thread as it would for any thread created using Thread.

Parameters:

parent The Decaf thread instace to associate with this thread handle.

name The name to assign to the returned **ThreadHandle** (p. 3014).

Returns:

a new **ThreadHandle** (p. 3014) instance for the parent Decaf Thread.

6.627.1.4 static void decaf::internal::util::concurrent::Threading::destoryThreadLocalSlot (int *slot*) [static]

6.627.1.5 static void decaf::internal::util::concurrent::Threading::destroyThread (ThreadHandle * *thread*) [static]

6.627.1.6 static void decaf::internal::util::concurrent::Threading::dumpRunningThreads () [static]

Diagnostic method dumps all threads info to console.

6.627.1.7 static void decaf::internal::util::concurrent::Threading::enterMonitor (MonitorHandle * *monitor*) [static]

Monitor locking method. The calling thread blocks until it acquires the monitor. A thread can enter the same monitor more than once, but must then exit the monitor the same number of times.

Parameters:

monitor The handle to the monitor that the current thread is attempting to lock.

6.627.1.8 static void decaf::internal::util::concurrent::Threading::exitMonitor (MonitorHandle * *monitor*) [static]

Exit the acquired monitor giving up the lock that is held and allowing other threads to acquire the monitor. If the calling thread has entered the monitor more than once then it must exit that monitor the same number of times.

Parameters:

monitor Handle to the monitor instance that is to be excited.

Exceptions:

IllegalMonitorStateException if the caller is not the owner of the monitor.

6.627.1.9 static Thread* decaf::internal::util::concurrent::Threading::getCurrentThread () [static]

Returns:

the Decaf Thread pointer instance for the currently running thread.

6.627.1.10 static ThreadHandle* decaf::internal::util::concurrent::Threading::getCurrentThreadHandle () [static]

Returns:

the **ThreadHandle** (p. 3014) instance for the currently running thread.

6.627.1.11 static long long decaf::internal::util::concurrent::Threading::getThreadId (ThreadHandle * *thread*) [static]

6.627.1.12 static void* decaf::internal::util::concurrent::Threading::getThreadLocalValue (int *slot*) [static]

6.627.1.13 static const char* decaf::internal::util::concurrent::Threading::getThreadName (ThreadHandle * *thread*) [static]

6.627.1.14 static int decaf::internal::util::concurrent::Threading::getThreadPriority (ThreadHandle * *thread*) [static]

6.627.1.15 static Thread::State decaf::internal::util::concurrent::Threading::getThreadState (ThreadHandle * *thread*) [static]

6.627.1.16 static void decaf::internal::util::concurrent::Threading::initialize () [static]

Called by the Decaf Runtime at startup to allow the Platform **Threading** (p. 3017) **code** (p. 999) to initialize any necessary **Threading** (p. 3017) constructs needed to support the features of this class.

6.627.1.17 static void decaf::internal::util::concurrent::Threading::interrupt (ThreadHandle * *thread*) [static]

6.627.1.18 static bool decaf::internal::util::concurrent::Threading::interrupted () [static]

6.627.1.19 static bool decaf::internal::util::concurrent::Threading::isInterrupted (ThreadHandle * *thread*, bool *reset*) [static]

6.627.1.20 static bool decaf::internal::util::concurrent::Threading::isMonitorLocked (MonitorHandle * *monitor*) [static]

Query the monitor object to determine if it is currently locked. This method is a mainly a diagnostic tool and its return value is not guaranteed to reflect the locked state after its been called as the state can change quickly.

6.627.1.21 static bool decaf::internal::util::concurrent::Threading::isThreadAlive (ThreadHandle * *thread*) [static]

6.627.1.22 static bool decaf::internal::util::concurrent::Threading::join (ThreadHandle * *thread*, long long *mills*, int *nanos*) [static]

Joins the given thread instance and waits for it to either terminate or for the given timeout period to expire. If the value of of the timeout is zero then this method waits forever.

Parameters:

thread The target thread to join.

mills The number of milliseconds to wait.

nanos The number of nanoseconds to wait [0-999999].

Returns:

true if the timeout period expired, false otherwise.

Exceptions:

InterruptedException if the Join was interrupted.

IllegalArgumentException if the value of mills or nanos is invalid.

6.627.1.23 static void decaf::internal::util::concurrent::Threading::lockThreadsLib () [static]

Locks the **Threading** (p. 3017) library allowing an object to perform some operations safely in a multi-threaded environment.

6.627.1.24 static void decaf::internal::util::concurrent::Threading::notifyAllWaiters (MonitorHandle * *monitor*) [static]

Notifies all waiting threads for the given Monitor. If there are no threads currently waiting on the given monitor instance then no action is taken. The calling thread must own the given monitor otherwise an IllegalMonitorStateException is thrown.

Parameters:

monitor The monitor handle that is to have all of its waiting thread signaled.

Exceptions:

IllegalMonitorStateException if the caller does not own the monitor.

6.627.1.25 static void decaf::internal::util::concurrent::Threading::notifyWaiter (MonitorHandle * *monitor*) [static]

Notify a single waiter on the given Monitor instance, if there is no thread currently waiting on the specified monitor then no action is taken. The calling thread must own the given monitor otherwise an IllegalMonitorStateException is thrown.

Parameters:

monitor The monitor handle that is to have a single waiting thread signaled.

Exceptions:

IllegalMonitorStateException if the caller does not own the monitor.

6.627.1.26 static bool decaf::internal::util::concurrent::Threading::park (Thread * *thread*, long long *mills*, int *nanos*) [static]

Removes the given thread from scheduling unless a call to unpark has already reset the park token in which case this method simple consumes the unpark token and returned.

Parameters:

thread The target thread to park.

mills The time in milliseconds to park the target thread.

nanos The additional time in nanoseconds to park the target thread.

6.627.1.27 static void decaf::internal::util::concurrent::Threading::park (Thread * *thread*) [static]

Removes the given thread from scheduling unless a call to unpark has already reset the park token in which case this method simple consumes the unpark token and returned.

Parameters:

thread The target thread to park.

6.627.1.28 static void decaf::internal::util::concurrent::Threading::returnMonitor (MonitorHandle * *monitor*, bool *alreadyLocked* = false) [static]

Returns a given monitor to the Monitor pool after the Monitor is no longer needed.

Parameters:

monitor The handle of the Monitor to return to the Monitor pool.

Exceptions:

IllegalMonitorStateException if the monitor is in use when returned.

6.627.1.29 static void decaf::internal::util::concurrent::Threading::setThreadLocalValue (int *slot*, void * *value*) [static]

6.627.1.30 static void decaf::internal::util::concurrent::Threading::setThreadName (ThreadHandle * *thread*, const char * *name*) [static]

6.627.1.31 static void decaf::internal::util::concurrent::Threading::setThreadPriority (ThreadHandle * *thread*, int *priority*) [static]

6.627.1.32 static void decaf::internal::util::concurrent::Threading::shutdown () [static]

Called by the Decaf Runtime at Shutdown to allow the Platform **Threading** (p. 3017) **code** (p. 999) to return any resources that were allocated at startup for the **Threading** (p. 3017) library.

6.627.1.33 static bool decaf::internal::util::concurrent::Threading::sleep (long long *mills*, int *nanos*) [static]

6.627.1.34 static void decaf::internal::util::concurrent::Threading::start (ThreadHandle * *thread*) [static]

Starts the given thread running, if the thread is already running then this method has no effect.

Parameters:

thread The thread instance to start.

6.627.1.35 static MonitorHandle* decaf::internal::util::concurrent::Threading::takeMonitor (bool *alreadyLocked* = false) [static]

Gets a monitor for use as a locking mechanism. The monitor returned will be initialized and ready for use. Each monitor that is taken must be returned before the **Threading** (p. 3017) library is shutdown.

Returns:

handle to a Monitor instance that has been initialized.

6.627.1.36 static bool decaf::internal::util::concurrent::Threading::tryEnterMonitor (MonitorHandle * *monitor*) [static]

Monitor locking method. If the calling thread cannot immediately acquire the lock on the monitor then this method returns false, otherwise the thread gains the lock on the monitor and the method returns true. A thread can enter a monitor multiple times, but must ensure that it exits the monitor the same number of times that it entered it.

Parameters:

monitor The handle to the monitor that the current thread is attempting to lock.

Returns:

true if the caller obtains the lock on the Monitor, false otherwise.

6.627.1.37 static void decaf::internal::util::concurrent::Threading::unlockThreadsLib () [static]

Unlocks the **Threading** (p. 3017) library when locked.

6.627.1.38 static void decaf::internal::util::concurrent::Threading::unpark (Thread * *thread*) [static]

If the target thread is not currently parked then this method sets the un-park token for the thread and returns. If the thread is parked than this method places the thread back in a state where it can be scheduled once more.

Parameters:

thread The thread to unpark.

6.627.1.39 static bool decaf::internal::util::concurrent::Threading::waitOnMonitor (MonitorHandle * *monitor*, long long *mills*, int *nanos*) [static]

Waits on a monitor to be signaled by another thread. The caller can wait for a given timeout or pass zero for both mills and nanos to indicate it wants to wait forever. If the caller specifies a timeout and that timeout expires before the monitor is signaled this method returns true. The calling thread must own the monitor in order to call this method, otherwise an IllegalMonitorStateException is thrown.

Parameters:

monitor Handle to the monitor that the calling thread is to wait on for a signal.

mills The time in milliseconds to wait for the monitor to be signaled.

nanos The time in nanoseconds to wait for the monitor to be signaled.

Returns:

true if the timeout given expires before the caller was signaled.

Exceptions:

IllegalMonitorStateException if the caller does not own the monitor.

6.627.1.40 static void decaf::internal::util::concurrent::Threading::yeild () [static]

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**Threading.h**

6.628 decaf::lang::ThreadLocal< E > Class Template Reference

This class provides thread-local variables.

`#include <src/main/decaf/lang/ThreadLocal.h>`Inheritance diagram for decaf::lang::ThreadLocal< E >:

Public Member Functions

- **ThreadLocal** ()

  *Creates a new instance of a **ThreadLocal** (p. 3026).*

- virtual ~**ThreadLocal** ()
- E & **get** ()

  Returns the value in the current thread's copy of this thread-local variable.

- void **set** (const E &value)

  Sets the current thread's copy of this thread-local variable to the specified value.

- void **remove** ()

  Removes the current thread's value for this thread-local variable.

Protected Member Functions

- virtual E **initialValue** () const

  Returns the current thread's "initial value" for this thread-local variable.

- virtual void **doDelete** (void *value)

  Called to destroy the value held by the current thread or by the library on shutdown if there are still ThreadLocalImpl instances that have assigned TLS slots.

6.628.1 Detailed Description

template<typename E> class decaf::lang::ThreadLocal< E >

This class provides thread-local variables. These variables differ from their normal counterparts in that each thread that accesses one (via its get or set method) has its own, independently initialized copy of the variable. **ThreadLocal** (p. 3026) instances are typically private static fields in classes that wish to associate state with a thread (e.g., a user ID or Transaction ID). This class imposes the restriction on the type that it will contains that it must by both assignable and copyable.

Each thread holds an implicit reference to its copy of a thread-local variable as long as the thread is alive and the **ThreadLocal** (p. 3026) instance is accessible; after a thread goes away, all of its copies of thread-local instances are destroyed.

Since:

1.0

6.628.2 Constructor & Destructor Documentation

6.628.2.1 template<typename E > decaf::lang::ThreadLocal< E >::ThreadLocal () [inline]

Creates a new instance of a **ThreadLocal** (p. 3026).

6.628.2.2 template<typename E > virtual decaf::lang::ThreadLocal< E >::~ThreadLocal () [inline, virtual]

References decaf::internal::util::concurrent::ThreadLocalImpl::removeAll().

6.628.3 Member Function Documentation

6.628.3.1 template<typename E > virtual void decaf::lang::ThreadLocal< E >::doDelete (void * *value*) [inline, protected, virtual]

Called to destroy the value held by the current thread or by the library on shutdown if there are still ThreadLocalImpl instances that have assigned TLS slots. Its up to the implementor if this interface to ensure that the value held in the void* is cleaned up correctly.

Parameters:

value The value to be destroyed for the current thread.

Implements **decaf::internal::util::concurrent::ThreadLocalImpl** (p. 3029).

6.628.3.2 template<typename E > E& decaf::lang::ThreadLocal< E >::get () [inline]

Returns the value in the current thread's copy of this thread-local variable. If the variable has no value for the current thread, it is first initialized to the value returned by an invocation of the **initialValue()** (p. 3027) method.

Returns:

the current thread's value for this thread local.

References decaf::internal::util::concurrent::ThreadLocalImpl::getRawValue(), decaf::lang::ThreadLocal< E >::initialValue(), NULL, and decaf::internal::util::concurrent::ThreadLocalImpl::setRawValue().

6.628.3.3 template<typename E > virtual E decaf::lang::ThreadLocal< E >::initialValue () const [inline, protected, virtual]

Returns the current thread's "initial value" for this thread-local variable. This method will be invoked the first time a thread accesses the variable with the **get()** (p. 3027) method, unless the

thread previously invoked the **set()** (p. 3028) method, in which case the initialValue method will not be invoked for the thread. Normally, this method is invoked at most once per thread, but it may be invoked again in case of subsequent invocations of **remove()** (p. 3028) followed by **get()** (p. 3027).

This implementation simply returns E(); if the programmer desires thread-local variables to have an initial value other than E(), **ThreadLocal** (p. 3026) must be subclassed, and this method overridden. Typically, an inner class will be used.

Parameters:

value **Pointer** (p. 2355) to the thread local value created by this thread when **get()** (p. 3027) is first called.

Referenced by decaf::lang::ThreadLocal< E >::get().

6.628.3.4 template<typename E > void decaf::lang::ThreadLocal< E >::remove () [inline]

Removes the current thread's value for this thread-local variable. If this thread-local variable is subsequently read by the current thread, its value will be reinitialized by invoking its **initialValue()** (p. 3027) method, unless its value is set by the current thread in the interim. This may result in multiple invocations of the initialValue method in the current thread.

References NULL, and decaf::internal::util::concurrent::ThreadLocalImpl::setRawValue().

6.628.3.5 template<typename E > void decaf::lang::ThreadLocal< E >::set (const E & *value*) [inline]

Sets the current thread's copy of this thread-local variable to the specified value. Most subclasses will have no need to override this method, relying solely on the **initialValue()** (p. 3027) method to set the values of thread-locals.

Parameters:

value The new value to assign to this **Thread** (p. 3000) local.

References decaf::internal::util::concurrent::ThreadLocalImpl::setRawValue().

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**ThreadLocal.h**

6.629 decaf::internal::util::concurrent::ThreadLocalImpl Class Reference

`#include <src/main/decaf/internal/util/concurrent/ThreadLocalImpl.h>`Inheritance diagram for decaf::internal::util::concurrent::ThreadLocalImpl:

Public Member Functions

- **ThreadLocalImpl** ()
- virtual ~**ThreadLocalImpl** ()
- void * **getRawValue** () const

  Returns the current threads assigned value, but retains ownership to this value unless the remove method is subsequently called.

- void **setRawValue** (void *value)

  Sets the raw void value for the current thread.*

- void **removeAll** ()

  Removes from all threads any allocated data stored for this ThreadLocal instance.

- virtual void **doDelete** (void *value)=0

  *Called to destroy the value held by the current thread or by the library on shutdown if there are still **ThreadLocalImpl** (p. 3029) instances that have assigned TLS slots.*

6.629.1 Constructor & Destructor Documentation

6.629.1.1 decaf::internal::util::concurrent::ThreadLocalImpl::ThreadLocalImpl ()

6.629.1.2 virtual decaf::internal::util::concurrent::ThreadLocalImpl::~ThreadLocalImpl () `[virtual]`

6.629.2 Member Function Documentation

6.629.2.1 virtual void decaf::internal::util::concurrent::ThreadLocalImpl::doDelete (void * *value*) `[pure virtual]`

Called to destroy the value held by the current thread or by the library on shutdown if there are still **ThreadLocalImpl** (p. 3029) instances that have assigned TLS slots. Its up to the implementor if this interface to ensure that the value held in the void* is cleaned up correctly.

Parameters:

value The value to be destroyed for the current thread.

Implemented in **decaf::lang::ThreadLocal< E >** (p. 3027).

6.629.2.2 void* decaf::internal::util::concurrent::ThreadLocalImpl::getRawValue () const

Returns the current threads assigned value, but retains ownership to this value unless the remove method is subsequently called.

Returns:

the currently held value for this thread.

Referenced by decaf::lang::ThreadLocal< E >::get().

6.629.2.3 void decaf::internal::util::concurrent::ThreadLocalImpl::removeAll ()

Removes from all threads any allocated data stored for this ThreadLocal instance. Subclasses should call this method in their destructor to ensure that all the values that are stored in each thread can be deallocated using their custom doDelete method.

Referenced by decaf::lang::ThreadLocal< E >::~ThreadLocal().

6.629.2.4 void decaf::internal::util::concurrent::ThreadLocalImpl::setRawValue (void * *value*)

Sets the raw void* value for the current thread. If the value is NULL and the old value is non-NULL then the library will call the doDelete method to destroy the previous value.

Parameters:

value Pointer to the value to be stored for the current thread or NULL.

Referenced by decaf::lang::ThreadLocal< E >::get(), decaf::lang::ThreadLocal< E >::remove(), and decaf::lang::ThreadLocal< E >::set().

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**ThreadLocalImpl.h**

6.630 decaf::util::concurrent::ThreadPoolExecutor Class Reference

Defines a Thread Pool object that implements the functionality of pooling threads to perform user tasks.

`#include <src/main/decaf/util/concurrent/ThreadPoolExecutor.h>`Inheritance diagram for decaf::util::concurrent::ThreadPoolExecutor:

Data Structures

- class **AbortPolicy**

  *Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute*** (p. *3039*) *this class always throws a **RejectedExecutionException*** (p. *2552*).

- class **CallerRunsPolicy**

  *Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute*** (p. *3039*) *this class will attempt to run the task in the Thread that called the execute method unless the executor is shutdown in which case the task is not run and is destroyed.*

- class **DiscardOldestPolicy**

  *Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute*** (p. *3039*) *this class always destroys the oldest unexecuted task in the **Queue*** (p. *2500*) *and then attempts to execute the rejected task using the passed in executor.*

- class **DiscardPolicy**

  *Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute*** (p. *3039*) *this class always destroys the rejected task and returns quietly.*

Public Member Functions

- **ThreadPoolExecutor** (int corePoolSize, int maxPoolSize, long long keepAliveTime, const **TimeUnit** &unit, **BlockingQueue**< **decaf::lang::Runnable** * > *workQueue)

  *Creates a new instance of a **ThreadPoolExecutor*** (p. *3031*).

- **ThreadPoolExecutor** (int corePoolSize, int maxPoolSize, long long keepAliveTime, const **TimeUnit** &unit, **BlockingQueue**< **decaf::lang::Runnable** * > *workQueue, **RejectedExecutionHandler** *handler)

  *Creates a new instance of a **ThreadPoolExecutor*** (p. *3031*).

- **ThreadPoolExecutor** (int corePoolSize, int maxPoolSize, long long keepAliveTime, const **TimeUnit** &unit, **BlockingQueue**< **decaf::lang::Runnable** * > *workQueue, **ThreadFactory** *threadFactory)

  *Creates a new instance of a **ThreadPoolExecutor*** (p. *3031*).

- **ThreadPoolExecutor** (int corePoolSize, int maxPoolSize, long long keepAliveTime, const **TimeUnit** &unit, **BlockingQueue**< **decaf::lang::Runnable** * > *workQueue, **ThreadFactory** *threadFactory, **RejectedExecutionHandler** *handler)

*Creates a new instance of a **ThreadPoolExecutor** (p. 3031).*

- virtual ~**ThreadPoolExecutor** ()
- virtual void **execute** (**decaf::lang::Runnable** *task)

  This method is the same as calling the two param execute method and passing true as the second argument.

- virtual void **execute** (**decaf::lang::Runnable** *task, bool takeOwnership)

  Executes the given command at some time in the future.

- virtual void **shutdown** ()

  *Performs an orderly shutdown of this **Executor** (p. 1463).*

- virtual **ArrayList**< **decaf::lang::Runnable** * > **shutdownNow** ()

  *Attempts to stop all currently executing tasks and returns an **ArrayList** (p. 579) containing the Runnables that did not get executed, these object become the property of the caller and are not deleted by this class, they are removed from the work queue and forgotten about.*

- virtual bool **awaitTermination** (long long timeout, const **decaf::util::concurrent::TimeUnit** &unit)

  The caller will block until the executor has completed termination meaning all tasks that where scheduled before shutdown have now completed and the executor is ready for deletion.

- virtual bool **isShutdown** () const

  Returns whether this executor has been shutdown or not.

- virtual bool **isTerminated** () const

  Returns whether all tasks have completed after this executor was shut down.

- virtual int **getPoolSize** () const

  *Returns the number of threads that currently exists for this **Executor** (p. 1463).*

- virtual int **getCorePoolSize** () const

  *Returns the configured number of core threads for this **Executor** (p. 1463).*

- virtual void **setCorePoolSize** (int poolSize)

  ***Set** (p. 2700) the number of threads that this executor treats as its core threads, this value will override the value set in the constructor.*

- virtual int **getMaximumPoolSize** () const

  *Returns the configured maximum number of threads for this **Executor** (p. 1463).*

- virtual void **setMaximumPoolSize** (int maxSize)

  *Sets the maximum number of workers this **Executor** (p. 1463) is allowed to have at any given time above the core pool size.*

- virtual long long **getTaskCount** () const

  Returns the current number of pending tasks in the work queue.

- virtual int **getActiveCount** () const

Returns an approximation of the number of threads that are currently running tasks for this executor.

- virtual long long **getCompletedTaskCount** () const

  Returns the approximate number of Tasks that have been completed by this ***Executor*** *(p. 1463), this value never decreases.*

- virtual int **getLargestPoolSize** () const

  Returns the most Threads that have ever been active at one time within this ***Executors*** *(p. 1466) Thread pool.*

- virtual **BlockingQueue< decaf::lang::Runnable * > * getQueue** ()

  Provides access to the Task ***Queue*** *(p. 2500) used by this* ***Executor*** *(p. 1463).*

- virtual bool **isTerminating** () const

  Returns true if the executor has begin the process of terminating but has not yet completed the process of shutting down all worker threads.

- virtual void **allowCoreThreadTimeout** (bool value)

  When true this setting allows the threads in the core pool to terminate if they sit idle longer than the set keep alive time.

- virtual bool **allowsCoreThreadTimeout** () const

  Returns whether this executor has been configured to allow core threads to terminate if they sit idle longer than the configured keep alive time.

- virtual long long **getKeepAliveTime** (const **TimeUnit** &unit) const

  Returns the currently set value for the maximum amount of time a worker Thread that is not part of the core threads is allowed to sit idle before it terminates.

- virtual void **setKeepAliveTime** (long long timeout, const **TimeUnit** &unit)

  Configures the amount of time a non core Thread will remain alive after it has completed its assigned task.

- virtual void **setThreadFactory** (**ThreadFactory** *factory)

  Sets the ***ThreadFactory*** *(p. 3011) instance used to create new Threads for this* ***Executor*** *(p. 1463).*

- virtual **ThreadFactory** * **getThreadFactory** () const

  Gets the currently configured ***ThreadFactory*** *(p. 3011).*

- virtual **RejectedExecutionHandler** * **getRejectedExecutionHandler** () const

  Gets the currently configured ***RejectedExecutionHandler*** *(p. 2555) for this* ***Executor*** *(p. 1463).*

- virtual void **setRejectedExecutionHandler** (**RejectedExecutionHandler** *handler)

  Sets the new ***RejectedExecutionHandler*** *(p. 2555) that this executor should use to process any rejected Runnable tasks.*

- virtual bool **prestartCoreThread** ()

  By default a Core thread is only created once the first task is queued, this method forces the creation of core thread that waits in an idle mode for new work to be enqueued.

- virtual int **prestartAllCoreThreads** ()

  This method will create and start new core threads running in an idle state waiting for new tasks up to the set core thread limit.

- bool **remove** (**decaf::lang::Runnable** *task)

  Attempts to remove the Runnable from the work queue, if successful then the caller now owns the Runnable and is responsible for deleting it.

- virtual void **purge** ()

  *Attempts to remove any **Future** (p. 1558) derived tasks from the pending work queue if they have been canceled.*

Protected Member Functions

- virtual void **beforeExecute** (**decaf::lang::Thread** *thread, **decaf::lang::Runnable** *task)

  Method called before a task is executed by the given thread.

- virtual void **afterExecute** (**decaf::lang::Runnable** *task, **decaf::lang::Throwable** *error)

  Called upon completion of execution of a given task.

- virtual void **terminated** ()

  *Method invoked when the **Executor** (p. 1463) has terminated, by default this method does nothing.*

- virtual void **onShutdown** ()

  *Used by some Decaf **ThreadPoolExecutor** (p. 3031) extensions to correctly handle the shutdown case.*

Friends

- class **ExecutorKernel**

6.630.1 Detailed Description

Defines a Thread Pool object that implements the functionality of pooling threads to perform user tasks. The Thread Poll has max size that it will grow to. The thread pool allocates threads in blocks. When there are no waiting worker threads and a task is queued then a new batch is allocated. The user can specify the size of the blocks, otherwise a default value is used.

When the user queues a task they must also queue a listener to be notified when the task has completed, this provides the user with a mechanism to know when a task object can be freed.

To have the Thread Pool perform a task, the user enqueue's an object that implements the `Runnable` interface and one of the worker threads will executing it in its thread context.

6.630.2 Constructor & Destructor Documentation

6.630.2.1 decaf::util::concurrent::ThreadPoolExecutor::ThreadPoolExecutor (int *corePoolSize*, int *maxPoolSize*, long long *keepAliveTime*, const TimeUnit & *unit*, BlockingQueue< decaf::lang::Runnable * > * *workQueue*)

Creates a new instance of a **ThreadPoolExecutor** (p. 3031). The executor instance is configured with the passed in parameters and a default thread Factory is used along with a default rejected execution handler.

Parameters:

corePoolSize The number of threads to pool regardless of their idle state.

maxPoolSize The maximum number of threads that will ever exist at one time in the pool.

keepAliveTime The maximum time to keep a thread in the pool for if the number of current threads exceeds to core pool size.

unit The units that the keepAliveTime is specified in.

workQueue A **BlockingQueue** (p. 684) implementation that will be used to hold Runnable tasks that are awaiting execution within this executor. The **Executor** (p. 1463) takes ownership of the **BlockingQueue** (p. 684) instance passed once this method returns.

Exceptions:

IllegalArguementException if the corePoolSize or keepAliveTime are negative or the or if maximumPoolSize is less than or equal to zero, or if corePoolSize is greater than maximumPoolSize.

NullPointerException if the workQueue pointer is NULL.

6.630.2.2 decaf::util::concurrent::ThreadPoolExecutor::ThreadPoolExecutor (int *corePoolSize*, int *maxPoolSize*, long long *keepAliveTime*, const TimeUnit & *unit*, BlockingQueue< decaf::lang::Runnable * > * *workQueue*, RejectedExecutionHandler * *handler*)

Creates a new instance of a **ThreadPoolExecutor** (p. 3031). The executor instance is configured with the passed in parameters and a default thread Factory is used along with a default rejected execution handler.

Parameters:

corePoolSize The number of threads to pool regardless of their idle state.

maxPoolSize The maximum number of threads that will ever exist at one time in the pool.

keepAliveTime The maximum time to keep a thread in the pool for if the number of current threads exceeds to core pool size.

unit The units that the keepAliveTime is specified in.

workQueue A **BlockingQueue** (p. 684) implementation that will be used to hold Runnable tasks that are awaiting execution within this executor. The **Executor** (p. 1463) takes ownership of the **BlockingQueue** (p. 684) instance passed once this method returns.

handler A **RejectedExecutionHandler** (p. 2555) implementation that will be used to handle any rejected tasks when they are submitted to this executor. The **Executor** (p. 1463) takes ownership of the **RejectedExecutionHandler** (p. 2555) instance passed once this method returns.

Exceptions:

IllegalArguementException if the corePoolSize or keepAliveTime are negative or the or if maximumPoolSize is less than or equal to zero, or if corePoolSize is greater than maximumPoolSize.

NullPointerException if the workQueue pointer is NULL.

6.630.2.3 decaf::util::concurrent::ThreadPoolExecutor::ThreadPoolExecutor (int *corePoolSize*, int *maxPoolSize*, long long *keepAliveTime*, const TimeUnit & *unit*, BlockingQueue< decaf::lang::Runnable * > * *workQueue*, ThreadFactory * *threadFactory*)

Creates a new instance of a **ThreadPoolExecutor** (p. 3031). The executor instance is configured with the passed in parameters and a default thread Factory is used along with a default rejected execution handler.

Parameters:

corePoolSize The number of threads to pool regardless of their idle state.

maxPoolSize The maximum number of threads that will ever exist at one time in the pool.

keepAliveTime The maximum time to keep a thread in the pool for if the number of current threads exceeds to core pool size.

unit The units that the keepAliveTime is specified in.

workQueue A **BlockingQueue** (p. 684) implementation that will be used to hold Runnable tasks that are awaiting execution within this executor. The **Executor** (p. 1463) takes ownership of the **BlockingQueue** (p. 684) instance passed once this method returns.

threadFactory A **ThreadFactory** (p. 3011) implementation that will be used to create worker threads that are used by this executor to run the submitted tasks. The **Executor** (p. 1463) takes ownership of the **ThreadFactory** (p. 3011) instance passed once this method returns.

Exceptions:

IllegalArguementException if the corePoolSize or keepAliveTime are negative or the or if maximumPoolSize is less than or equal to zero, or if corePoolSize is greater than maximumPoolSize.

NullPointerException if the workQueue pointer is NULL.

6.630.2.4 decaf::util::concurrent::ThreadPoolExecutor::ThreadPoolExecutor (int *corePoolSize*, int *maxPoolSize*, long long *keepAliveTime*, const TimeUnit & *unit*, BlockingQueue< decaf::lang::Runnable * > * *workQueue*, ThreadFactory * *threadFactory*, RejectedExecutionHandler * *handler*)

Creates a new instance of a **ThreadPoolExecutor** (p. 3031). The executor instance is configured with the passed in parameters and a default thread Factory is used along with a default rejected execution handler.

Parameters:

corePoolSize The number of threads to pool regardless of their idle state.

maxPoolSize The maximum number of threads that will ever exist at one time in the pool.

keepAliveTime The maximum time to keep a thread in the pool for if the number of current threads exceeds to core pool size.

unit The units that the keepAliveTime is specified in.

workQueue A **BlockingQueue** (p. 684) implementation that will be used to hold Runnable tasks that are awaiting execution within this executor. The **Executor** (p. 1463) takes ownership of the **BlockingQueue** (p. 684) instance passed once this method returns.

threadFactory A **ThreadFactory** (p. 3011) implementation that will be used to create worker threads that are used by this executor to run the submitted tasks. The **Executor** (p. 1463) takes ownership of the **ThreadFactory** (p. 3011) instance passed once this method returns.

handler A **RejectedExecutionHandler** (p. 2555) implementation that will be used to handle any rejected tasks when they are submitted to this executor. The **Executor** (p. 1463) takes ownership of the **BlockingQueue** (p. 684) instance passed once this method returns.

Exceptions:

IllegalArguementException if the corePoolSize or keepAliveTime are negative or the or if maximumPoolSize is less than or equal to zero, or if corePoolSize is greater than maximumPoolSize.

NullPointerException if the workQueue pointer is NULL.

6.630.2.5 virtual decaf::util::concurrent::ThreadPoolExecutor::~ThreadPoolExecutor () [virtual]

6.630.3 Member Function Documentation

6.630.3.1 virtual void decaf::util::concurrent::ThreadPoolExecutor::afterExecute (decaf::lang::Runnable * *task*, decaf::lang::Throwable * *error*) [protected, virtual]

Called upon completion of execution of a given task. This method is called from the Thread that executed the given Runnable. If the Throwable pointer is not NULL then its value is the Exception that caused the task to terminate.

The base class implementation does nothing, a derived class should call this method on its base class to ensure that all subclasses have a chance to process the afterExecute event.

Parameters:

task The Runnable instance that was executed by the calling Thread.

error The exception that was thrown from the given Runnable.

6.630.3.2 virtual void decaf::util::concurrent::ThreadPoolExecutor::allowCoreThreadTimeout (bool *value*) [virtual]

When true this setting allows the threads in the core pool to terminate if they sit idle longer than the set keep alive time. Core threads that terminate are replaced as needed by new ones on

demand. This settings requires that the set keep alive time be greater than zero and will throw an IllegalArguementException if that is not the case.

Parameters:

value Boolean value indicating if core threads are allowed to time out when idle.

Exceptions:

IllegalArgumentException if the keep alive time is set to zero.

6.630.3.3 virtual bool decaf::util::concurrent::ThreadPoolExecutor::allowsCoreThreadTimeout () const [virtual]

Returns whether this executor has been configured to allow core threads to terminate if they sit idle longer than the configured keep alive time. Threads that are not core threads continue to time out using the set keep alive value regardless of whether this option is enabled.

Returns:

true if core threads can timeout when idle.

6.630.3.4 virtual bool decaf::util::concurrent::ThreadPoolExecutor::awaitTermination (long long *timeout*, const decaf::util::concurrent::TimeUnit & *unit*) [virtual]

The caller will block until the executor has completed termination meaning all tasks that where scheduled before shutdown have now completed and the executor is ready for deletion. If the timeout period elapses before the executor reaches the terminated state then this method return false to indicate it has not terminated.

Parameters:

timeout The amount of time to wait before abandoning the wait for termination.

unit The unit of time that the timeout value represents.

Returns:

true if the executor terminated or false if the timeout expired.

Exceptions:

InterruptedException if this call is interrupted while awaiting termination.

Implements **decaf::util::concurrent::ExecutorService** (p. 1472).

6.630.3.5 virtual void decaf::util::concurrent::ThreadPoolExecutor::beforeExecute (decaf::lang::Thread * *thread*, decaf::lang::Runnable * *task*) [protected, virtual]

Method called before a task is executed by the given thread. The default implementation of this method does nothing, however a subclass can override this method to add some new functionality.

It is recommended that a subclass call this method on its base class to ensure that all base classes have a chance to process this event.

Parameters:

thread The thread that will be executing the given task.

task The task that will be executed by the given thread.

6.630.3.6 virtual void decaf::util::concurrent::ThreadPoolExecutor::execute (decaf::lang::Runnable * *command*, bool *takeOwnership*) [virtual]

Executes the given command at some time in the future. The command may execute in a new thread, in a pooled thread, or in the calling thread, at the discretion of the `Executor` (p. 1463) implementation.

Parameters:

command The runnable task to be executed.

takeOwnership Indicates if the **Executor** (p. 1463) should assume ownership of the task and delete the pointer once the task has completed.

Exceptions:

RejectedExecutionException (p. *2552*) if this task cannot be accepted for execution.

NullPointerException if command is null

Implements **decaf::util::concurrent::Executor** (p. 1464).

6.630.3.7 virtual void decaf::util::concurrent::ThreadPoolExecutor::execute (decaf::lang::Runnable * *command*) [virtual]

This method is the same as calling the two param execute method and passing true as the second argument.

Parameters:

command The runnable task to be executed.

Exceptions:

RejectedExecutionException (p. *2552*) if this task cannot be accepted for execution.

NullPointerException if command is null

Implements **decaf::util::concurrent::Executor** (p. 1464).

Referenced by decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy::rejectedExecution().

6.630.3.8 virtual int decaf::util::concurrent::ThreadPoolExecutor::getActiveCount () const [virtual]

Returns an approximation of the number of threads that are currently running tasks for this executor. This value can change rapidly.

Returns:

the number of currently active threads.

6.630.3.9 virtual long long decaf::util::concurrent::ThreadPoolExecutor::getCompletedTaskCount () const [virtual]

Returns the approximate number of Tasks that have been completed by this **Executor** (p. 1463), this value never decreases.

Returns:

the number of completed tasks since creation of the **Executor** (p. 1463).

6.630.3.10 virtual int decaf::util::concurrent::ThreadPoolExecutor::getCorePoolSize () const [virtual]

Returns the configured number of core threads for this **Executor** (p. 1463).

Returns:

the configured number of core Threads.

6.630.3.11 virtual long long decaf::util::concurrent::ThreadPoolExecutor::getKeepAliveTime (const TimeUnit & *unit*) const [virtual]

Returns the currently set value for the maximum amount of time a worker Thread that is not part of the core threads is allowed to sit idle before it terminates.

Parameters:

unit The unit of time to return the results in.

Returns:

the configure keep alive time in the requested time units.

6.630.3.12 virtual int decaf::util::concurrent::ThreadPoolExecutor::getLargestPoolSize () const [virtual]

Returns the most Threads that have ever been active at one time within this **Executors** (p. 1466) Thread pool.

Returns:

the largest number of threads ever to coexist in this executor.

6.630.3.13 virtual int decaf::util::concurrent::ThreadPoolExecutor::getMaximumPoolSize () const [virtual]

Returns the configured maximum number of threads for this **Executor** (p. 1463).

Returns:

the configured maximum number of Threads.

6.630.3.14 virtual int decaf::util::concurrent::ThreadPoolExecutor::getPoolSize () const [virtual]

Returns the number of threads that currently exists for this **Executor** (p. 1463).

Returns:

the configured number of Threads in the Pool.

6.630.3.15 virtual BlockingQueue<decaf::lang::Runnable*>* decaf::util::concurrent::ThreadPoolExecutor::getQueue () [virtual]

Provides access to the Task **Queue** (p. 2500) used by this **Executor** (p. 1463). This method is meant mainly for debugging and monitoring, care should be taken when using this method. The executor continues to execute tasks from the **Queue** (p. 2500).

Returns:

a pointer to the blocking queue that this executor stores future tasks in.

Referenced by decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy::rejectedExecution().

6.630.3.16 virtual RejectedExecutionHandler* decaf::util::concurrent::ThreadPoolExecutor::getRejectedExecutionHandler () const [virtual]

Gets the currently configured **RejectedExecutionHandler** (p. 2555) for this **Executor** (p. 1463).

Returns:

a pointer to the current **RejectedExecutionHandler** (p. 2555).

6.630.3.17 virtual long long decaf::util::concurrent::ThreadPoolExecutor::getTaskCount () const [virtual]

Returns the current number of pending tasks in the work queue. This is an approximation as the number of pending tasks can quickly changes as tasks complete and new tasks are started.

Returns:

number of outstanding tasks, approximate.

6.630.3.18 virtual ThreadFactory* decaf::util::concurrent::ThreadPoolExecutor::getThreadFactory () const [virtual]

Gets the currently configured **ThreadFactory** (p. 3011). It is considered a programming error to delete the pointer returned by this method.

Returns:

the currently configured **ThreadFactory** (p. 3011) instance used by this object.

6.630.3.19 virtual bool decaf::util::concurrent::ThreadPoolExecutor::isShutdown () const [virtual]

Returns whether this executor has been shutdown or not.

Returns:

true if this executor has been shutdown.

Implements **decaf::util::concurrent::ExecutorService** (p. 1473).

Referenced by decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy::rejectedExecution().

6.630.3.20 virtual bool decaf::util::concurrent::ThreadPoolExecutor::isTerminated () const [virtual]

Returns whether all tasks have completed after this executor was shut down.

Returns:

true if all tasks have completed after a request to shut down was made.

Implements **decaf::util::concurrent::ExecutorService** (p. 1473).

6.630.3.21 virtual bool decaf::util::concurrent::ThreadPoolExecutor::isTerminating () const [virtual]

Returns true if the executor has begin the process of terminating but has not yet completed the process of shutting down all worker threads. If the **Executor** (p. 1463) does not transition from this state to terminated after some time its generally an indication that one of the submitted tasks will not complete and the executor is locked in a terminating state.

Returns:

true if all tasks have completed after a request to shut down was made.

6.630.3.22 virtual void decaf::util::concurrent::ThreadPoolExecutor::onShutdown () [protected, virtual]

Used by some Decaf **ThreadPoolExecutor** (p. 3031) extensions to correctly handle the shutdown case.

6.630.3.23 virtual int decaf::util::concurrent::ThreadPoolExecutor::prestartAllCoreThreads () [virtual]

This method will create and start new core threads running in an idle state waiting for new tasks up to the set core thread limit. When the limit is reached this method returns zero to indicate no more core threads can be created.

Returns:

the number of core threads created, or zero if the limit has already been met.

6.630.3.24 virtual bool decaf::util::concurrent::ThreadPoolExecutor::prestartCoreThread () [virtual]

By default a Core thread is only created once the first task is queued, this method forces the creation of core thread that waits in an idle mode for new work to be enqueued. If the limit on core threads has already been reached then this method returns false.

Returns:

true if a new core thread was added, false otherwise.

6.630.3.25 virtual void decaf::util::concurrent::ThreadPoolExecutor::purge () [virtual]

Attempts to remove any **Future** (p. 1558) derived tasks from the pending work queue if they have been canceled. This method can be used to more quickly remove and reclaim space as canceled tasks are not run but must await a worker thread to be removed normally. Since there are multiple threads in operation its possible for this method to not remove all canceled tasks from the work queue.

6.630.3.26 bool decaf::util::concurrent::ThreadPoolExecutor::remove (decaf::lang::Runnable * *task*)

Attempts to remove the Runnable from the work queue, if successful then the caller now owns the Runnable and is responsible for deleting it.

Parameters:

task The task that is to be removed from the work queue.

Returns:

true if the task was removed from the **Queue** (p. 2500).

6.630.3.27 virtual void decaf::util::concurrent::ThreadPoolExecutor::setCorePoolSize (int *poolSize*) [virtual]

Set (p. 2700) the number of threads that this executor treats as its core threads, this value will override the value set in the constructor. If the value given is less than the current value then

the core threads will shrink to the new value over time. If the value is larger than the current value then new threads may be started to process currently pending tasks, otherwise they will be started as needed when new tasks arrive.

Parameters:

poolSize The new core pool size for this executor.

Exceptions:

IllegalArgumentException if the pool size value is less than zero.

6.630.3.28 virtual void decaf::util::concurrent::ThreadPoolExecutor::setKeepAliveTime (long long *timeout*, const TimeUnit & *unit*) [virtual]

Configures the amount of time a non core Thread will remain alive after it has completed its assigned task. This value can also be applied to core threads if the allowCoreThreadsTimeout option is enabled.

Parameters:

timeout The amount of time an idle worker will live before terminating.

unit The units that the timeout is given in.

Exceptions:

IllegalArgumentException if allowCoreThreadsTimeout is enabled and the the timeout value given is zero, or the timeout given is negative.

6.630.3.29 virtual void decaf::util::concurrent::ThreadPoolExecutor::setMaximumPoolSize (int *maxSize*) [virtual]

Sets the maximum number of workers this **Executor** (p. 1463) is allowed to have at any given time above the core pool size. This new value overrides any set in the constructor and if smaller than the current value worker threads will terminate as they complete their current tasks and become idle.

Parameters:

maxSize The new maximum allowed worker pool size.

Exceptions:

IllegalArgumentException if maxSize is negative or less than core pool size.

6.630.3.30 virtual void decaf::util::concurrent::ThreadPoolExecutor::setRejectedExecutionHandler (RejectedExecutionHandler * *handler*) [virtual]

Sets the new **RejectedExecutionHandler** (p. 2555) that this executor should use to process any rejected Runnable tasks. This executor takes ownership of the supplied pointer and will desotroy it upon termination, any previous handler is destroyed by this call.

Parameters:

handler The new **RejectedExecutionHandler** (p. 2555) instance to use.

Exceptions:

NullPointerException if the handler is NULL.

6.630.3.31 virtual void decaf::util::concurrent::ThreadPoolExecutor::setThreadFactory (ThreadFactory * *factory*) [virtual]

Sets the **ThreadFactory** (p. 3011) instance used to create new Threads for this **Executor** (p. 1463). This class takes ownership of the given **ThreadFactory** (p. 3011) and will destroy it upon termination or when a new **ThreadFactory** (p. 3011) is set using this method.

Parameters:

factory A **ThreadFactory** (p. 3011) instance used by this **Executor** (p. 1463) to create new Threads.

Exceptions:

NullPointerException if the given factory pointer is NULL.

6.630.3.32 virtual void decaf::util::concurrent::ThreadPoolExecutor::shutdown () [virtual]

Performs an orderly shutdown of this **Executor** (p. 1463). Previously queued tasks are allowed to complete but no new tasks are accepted for execution. Calling this method more than once has no affect on this executor.

Implements **decaf::util::concurrent::ExecutorService** (p. 1473).

6.630.3.33 virtual ArrayList<decaf::lang::Runnable*> decaf::util::concurrent::ThreadPoolExecutor::shutdownNow () [virtual]

Attempts to stop all currently executing tasks and returns an **ArrayList** (p. 579) containing the Runnables that did not get executed, these object become the property of the caller and are not deleted by this class, they are removed from the work queue and forgotten about. There is no guarantee that this method will halt execution of currently executing tasks.

Returns:

an **ArrayList** (p. 579) containing all Runnable instance that were still waiting to be executed by this class, call now owns those pointers.

Implements **decaf::util::concurrent::ExecutorService** (p. 1473).

6.630.3.34 virtual void decaf::util::concurrent::ThreadPoolExecutor::terminated () [protected, virtual]

Method invoked when the **Executor** (p. 1463) has terminated, by default this method does nothing. When overridden the subclass should call superclass::terminated to ensure that all subclasses have their terminated method invoked.

6.630.4 Friends And Related Function Documentation

6.630.4.1 friend class ExecutorKernel [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**ThreadPoolExecutor.h**

6.631 decaf::lang::Throwable Class Reference

This class represents an error that has occurred.

`#include <src/main/decaf/lang/Throwable.h>`Inheritance diagram for decaf::lang::Throwable:

Public Member Functions

- **Throwable** ()
- virtual ~**Throwable** () throw ()
- virtual std::string **getMessage** () const =0

  Gets the cause of the error, if no message was provided to the instance of this interface but a cause was then the value cause.getMessage is then returned.

- virtual const std::exception * **getCause** () const =0

  Gets the exception that caused this one to be thrown, this allows for chaining of ***exceptions*** *(p. 115) in the case of a method that throws only a particular exception but wishes to allow for the real causal exception to be passed only in case the caller knows about that type of exception and wishes to respond to it.*

- virtual void **initCause** (const std::exception *cause)=0

  Initializes the contained cause exception with the one given.

- virtual void **setMark** (const char *file, const int lineNumber)=0

  Adds a file/line number to the stack trace.

- virtual **Throwable** * **clone** () const =0

  Clones this exception.

- virtual std::vector< std::pair< std::string, int > > **getStackTrace** () const =0

  Provides the stack trace for every point where this exception was caught, marked, and rethrown.

- virtual void **printStackTrace** () const =0

  Prints the stack trace to std::err.

- virtual void **printStackTrace** (std::ostream &stream) const =0

  Prints the stack trace to the given output stream.

- virtual std::string **getStackTraceString** () const =0

  Gets the stack trace as one contiguous string.

6.631.1 Detailed Description

This class represents an error that has occurred. All Exceptions in the Decaf library should extend from this or from the **Exception** (p. 1445) class in order to ensure that all Decaf Exceptions are interchangeable with the std::exception class.

Throwable (p. 3047) can wrap another **Throwable** (p. 3047) as the cause if the error being thrown. The user can inspect the cause by calling `getCause`, the pointer returned is the property of the **Throwable** (p. 3047) instance and will be deleted when it is deleted or goes out of scope.

Since:

1.0

6.631.2 Constructor & Destructor Documentation

6.631.2.1 decaf::lang::Throwable::Throwable ()

6.631.2.2 virtual decaf::lang::Throwable::~Throwable () throw () [virtual]

6.631.3 Member Function Documentation

6.631.3.1 virtual Throwable* decaf::lang::Throwable::clone () const [pure virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

Copy of this **Exception** (p. 1445) object

Implemented in **activemq::exceptions::ActiveMQException** (p. 336), **activemq::exceptions::BrokerException** (p. 708), **activemq::exceptions::ConnectionFailedException** (p. 1113), **decaf::internal::net::ssl::openssl::OpenSSLSocketException** (p. 2295), **decaf::io::EOFException** (p. 1440), **decaf::io::InterruptedIOException** (p. 1758), **decaf::io::IOException** (p. 1775), **decaf::io::UnsupportedEncodingException** (p. 3146), **decaf::io::UTFDataFormatException** (p. 3202), **decaf::lang::Exception** (p. 1447), **decaf::lang::exceptions::ClassCastException** (p. 955), **decaf::lang::exceptions::CloneNotSupportedException** (p. 958), **decaf::lang::exceptions::IllegalArgumentException** (p. 1641), **decaf::lang::exceptions::IllegalMonitorStateException** (p. 1644), **decaf::lang::exceptions::IllegalStateException** (p. 1649), **decaf::lang::exceptions::IllegalThreadStateException** (p. 1652), **decaf::lang::exceptions::IndexOutOfBoundsException** (p. 1659), **decaf::lang::exceptions::InterruptedException** (p. 1755), **decaf::lang::exceptions::InvalidStateException** (p. 1773), **decaf::lang::exceptions::NegativeArraySizeException** (p. 2230), **decaf::lang::exceptions::NullPointerException** (p. 2255), **decaf::lang::exceptions::NumberFormatException** (p. 2261), **decaf::lang::exceptions::OutOfMemoryError** (p. 2332), **decaf::lang::exceptions::RuntimeException** (p. 2613), **decaf::lang::exceptions::UnsupportedOperationExce** (p. 3149), **decaf::net::BindException** (p. 669), **decaf::net::ConnectException** (p. 1082), **decaf::net::HttpRetryException** (p. 1636), **decaf::net::MalformedURLException** (p. 1994), **decaf::net::NoRouteToHostException** (p. 2243), **decaf::net::PortUnreachableException** (p. 2381), **decaf::net::ProtocolException** (p. 2484), **decaf::net::SocketException** (p. 2773), **decaf::net::SocketTimeoutException** (p. 2794), **decaf::net::UnknownHostException** (p. 3140), **decaf::net::UnknownServiceException** (p. 3143), **decaf::net::URISyntaxException** (p. 3184), **decaf::nio::BufferOverflowException**

(p. 756), **decaf::nio::BufferUnderflowException** (p. 759), **decaf::nio::InvalidMarkException** (p. 1768), **decaf::nio::ReadOnlyBufferException** (p. 2522), **decaf::security::cert::CertificateEncodingException** (p. 895), **decaf::security::cert::CertificateException** (p. 898), **decaf::security::cert::CertificateExpiredException** (p. 901), **decaf::security::cert::CertificateNotYetValidException** (p. 904), **decaf::security::cert::CertificateParsingException** (p. 907), **decaf::security::DigestException** (p. 1388), **decaf::security::GeneralSecurityException** (p. 1572), **decaf::security::InvalidKeyException** (p. 1765), **decaf::security::KeyException** (p. 1832), **decaf::security::KeyManagementException** (p. 1835), **decaf::security::NoSuchAlgorithmException** (p. 2246), **decaf::security::NoSuchProviderException** (p. 2252), **decaf::security::ProviderException** (p. 2489), **decaf::security::SignatureException** (p. 2743), **decaf::util::concurrent::BrokenBarrierException** (p. 702), **decaf::util::concurrent::CancellationException** (p. 888), **decaf::util::concurrent::ExecutionException** (p. 1462), **decaf::util::concurrent::RejectedExecutionException** (p. 2554), **decaf::util::concurrent::TimeoutException** (p. 3054), **decaf::util::ConcurrentModificationException** (p. 1052), **decaf::util::NoSuchElementException** (p. 2249), **decaf::util::zip::DataFormatException** (p. 1241), and **decaf::util::zip::ZipException** (p. 3283).

6.631.3.2 virtual const std::exception* decaf::lang::Throwable::getCause () const [pure virtual]

Gets the exception that caused this one to be thrown, this allows for chaining of **exceptions** (p. 115) in the case of a method that throws only a particular exception but wishes to allow for the real causal exception to be passed only in case the caller knows about that type of exception and wishes to respond to it.

Returns:

a const pointer reference to the causal exception, if there was no cause associated with this exception then NULL is returned.

Implemented in **decaf::lang::Exception** (p. 1448).

6.631.3.3 virtual std::string decaf::lang::Throwable::getMessage () const [pure virtual]

Gets the cause of the error, if no message was provided to the instance of this interface but a cause was then the value cause.getMessage is then returned.

Returns:

string errors message

Implemented in **decaf::lang::Exception** (p. 1449).

6.631.3.4 virtual std::vector< std::pair< std::string, int> > decaf::lang::Throwable::getStackTrace () const [pure virtual]

Provides the stack trace for every point where this exception was caught, marked, and rethrown.

Returns:

vector containing stack trace strings

Implemented in **decaf::lang::Exception** (p. 1449).

6.631.3.5 virtual std::string decaf::lang::Throwable::getStackTraceString () const [pure virtual]

Gets the stack trace as one contiguous string.

Returns:

string with formatted stack trace data

Implemented in **decaf::lang::Exception** (p. 1449).

6.631.3.6 virtual void decaf::lang::Throwable::initCause (const std::exception * *cause*) [pure virtual]

Initializes the contained cause exception with the one given. A copy is made to avoid ownership issues.

Parameters:

cause The exception that was the cause of this one.

Implemented in **decaf::lang::Exception** (p. 1449).

6.631.3.7 virtual void decaf::lang::Throwable::printStackTrace (std::ostream & *stream*) const [pure virtual]

Prints the stack trace to the given output stream.

Parameters:

stream the target output stream.

Implemented in **decaf::lang::Exception** (p. 1450).

6.631.3.8 virtual void decaf::lang::Throwable::printStackTrace () const [pure virtual]

Prints the stack trace to std::err.

Implemented in **decaf::lang::Exception** (p. 1450).

6.631.3.9 virtual void decaf::lang::Throwable::setMark (const char * *file*, const int *lineNumber*) [pure virtual]

Adds a file/line number to the stack trace.

Parameters:

file The name of the file calling this method (use __FILE__).

lineNumber The line number in the calling file (use __LINE__).

Implemented in **decaf::lang::Exception** (p. 1450).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Throwable.h**

6.632 decaf::util::concurrent::TimeoutException Class Reference

`#include <src/main/decaf/util/concurrent/TimeoutException.h>`Inheritance diagram for decaf::util::concurrent::TimeoutException:

Public Member Functions

- **TimeoutException** ()

  Default Constructor.

- **TimeoutException** (const **decaf::lang::Exception** &ex)

  Conversion Constructor from some other Exception.

- **TimeoutException** (const **TimeoutException** &ex)

  Copy Constructor.

- **TimeoutException** (const std::exception *cause)

  Constructor.

- **TimeoutException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **TimeoutException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **TimeoutException** * **clone** () const

  Clones this exception.

- virtual ~**TimeoutException** () throw ()

6.632.1 Constructor & Destructor Documentation

6.632.1.1 decaf::util::concurrent::TimeoutException::TimeoutException ()

Default Constructor.

6.632.1.2 decaf::util::concurrent::TimeoutException::TimeoutException (const decaf::lang::Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.632.1.3 decaf::util::concurrent::TimeoutException::TimeoutException (const TimeoutException & *ex*)

Copy Constructor.

Parameters:

ex The exception to copy from.

6.632.1.4 decaf::util::concurrent::TimeoutException::TimeoutException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.632.1.5 decaf::util::concurrent::TimeoutException::TimeoutException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The string message to report

... list of primitives that are formatted into the message

6.632.1.6 decaf::util::concurrent::TimeoutException::TimeoutException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The string message to report

... list of primitives that are formatted into the message

6.632.1.7 virtual decaf::util::concurrent::TimeoutException::~TimeoutException () throw () [virtual]

6.632.2 Member Function Documentation

6.632.2.1 virtual TimeoutException* decaf::util::concurrent::TimeoutException::clone () const [virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new **TimeoutException** (p. 3052) that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**TimeoutException.h**

6.633 decaf::util::Timer Class Reference

A facility for threads to schedule tasks for future execution in a background thread.

`#include <src/main/decaf/util/Timer.h>`

Public Member Functions

- **Timer** ()
- **Timer** (const std::string &name)

  *Create a new **Timer** (p. 3055) whose associated thread is assigned the name given.*

- virtual ~**Timer** ()
- void **cancel** ()

  Terminates this timer, discarding any currently scheduled tasks.

- bool **awaitTermination** (long long timeout, const **decaf::util::concurrent::TimeUnit** &unit)

  *The caller will block until the **Timer** (p. 3055) has completed termination meaning all tasks that where scheduled before cancelation have now completed and the executor is ready for deletion.*

- int **purge** ()

  Removes all canceled tasks from this timer's task queue.

- void **schedule** (**TimerTask** *task, long long delay)

  Schedules the specified task for execution after the specified delay.

- void **schedule** (const **decaf::lang::Pointer**< **TimerTask** > &task, long long delay)

  Schedules the specified task for execution after the specified delay.

- void **schedule** (**TimerTask** *task, const **Date** &time)

  Schedules the specified task for execution at the specified time.

- void **schedule** (const **decaf::lang::Pointer**< **TimerTask** > &task, const **Date** &time)

  Schedules the specified task for execution at the specified time.

- void **schedule** (**TimerTask** *task, long long delay, long long period)

  Schedules the specified task for repeated fixed-delay execution, beginning after the specified delay.

- void **schedule** (const **decaf::lang::Pointer**< **TimerTask** > &task, long long delay, long long period)

  Schedules the specified task for repeated fixed-delay execution, beginning after the specified delay.

- void **schedule** (**TimerTask** *task, const **Date** &firstTime, long long period)

  Schedules the specified task for repeated fixed-delay execution, beginning at the specified time.

- void **schedule** (const **decaf::lang::Pointer**< **TimerTask** > &task, const **Date** &first-Time, long long period)

  Schedules the specified task for repeated fixed-delay execution, beginning at the specified time.

- void **scheduleAtFixedRate** (**TimerTask** *task, long long delay, long long period)

  Schedules the specified task for repeated fixed-rate execution, beginning after the specified delay.

- void **scheduleAtFixedRate** (const **decaf::lang::Pointer**< **TimerTask** > &task, long long delay, long long period)

  Schedules the specified task for repeated fixed-rate execution, beginning after the specified delay.

- void **scheduleAtFixedRate** (**TimerTask** *task, const **Date** &firstTime, long long period)

  Schedules the specified task for repeated fixed-rate execution, beginning at the specified time.

- void **scheduleAtFixedRate** (const **decaf::lang::Pointer**< **TimerTask** > &task, const **Date** &firstTime, long long period)

  Schedules the specified task for repeated fixed-rate execution, beginning at the specified time.

6.633.1 Detailed Description

A facility for threads to schedule tasks for future execution in a background thread. Tasks may be scheduled for one-time execution, or for repeated execution at regular intervals.

Corresponding to each **Timer** (p. 3055) object is a single background thread that is used to execute all of the timer's tasks, sequentially. **Timer** (p. 3055) tasks should complete quickly. If a timer task takes excessive time to complete, it "hogs" the timer's task execution thread. This can, in turn, delay the execution of subsequent tasks, which may "bunch up" and execute in rapid succession when (and if) the offending task finally completes.

This class is thread-safe: multiple threads can share a single **Timer** (p. 3055) object without the need for external synchronization.

This class does not offer real-time guarantees: it schedules tasks using the wait(long) method.

Since:

1.0

6.633.2 Constructor & Destructor Documentation

6.633.2.1 decaf::util::Timer::Timer ()

6.633.2.2 decaf::util::Timer::Timer (const std::string & *name*)

Create a new **Timer** (p. 3055) whose associated thread is assigned the name given.

Parameters:

name The name to assign to this Timer's Thread.

6.633.2.3 virtual decaf::util::Timer::~Timer () [virtual]

6.633.3 Member Function Documentation

6.633.3.1 bool decaf::util::Timer::awaitTermination (long long *timeout*, const decaf::util::concurrent::TimeUnit & *unit*)

The caller will block until the **Timer** (p. 3055) has completed termination meaning all tasks that where scheduled before cancelation have now completed and the executor is ready for deletion. If the timeout period elapses before the **Timer** (p. 3055) reaches the terminated state then this method return false to indicate it has not terminated.

Parameters:

timeout The amount of time to wait before abandoning the wait for termination.

unit The unit of time that the timeout value represents.

Returns:

true if the **Timer** (p. 3055) terminated or false if the timeout expired.

Exceptions:

InterruptedException if this call is interrupted while awaiting termination.

6.633.3.2 void decaf::util::Timer::cancel ()

Terminates this timer, discarding any currently scheduled tasks. Does not interfere with a currently executing task (if it exists). Once a timer has been terminated, its execution thread terminates gracefully, and no more tasks may be scheduled on it.

Note that calling this method from within the run method of a timer task that was invoked by this timer absolutely guarantees that the ongoing task execution is the last task execution that will ever be performed by this timer.

This method may be called repeatedly; the second and subsequent calls have no effect.

6.633.3.3 int decaf::util::Timer::purge ()

Removes all canceled tasks from this timer's task queue. Calling this method has no effect on the behavior of the timer, but eliminates the canceled tasks from the queue causing the **Timer** (p. 3055) to destroy the **TimerTask** (p. 3066) pointer it was originally given, the caller should ensure that they no longer have any references to TimerTasks that were previously scheduled.

Most programs will have no need to call this method. It is designed for use by the rare application that cancels a large number of tasks. Calling this method trades time for space: the runtime of the method may be proportional to n + c log n, where n is the number of tasks in the queue and c is the number of canceled tasks.

This method can be called on a **Timer** (p. 3055) object that has no scheduled tasks without error.

Returns:

the number of tasks removed from the queue.

6.633.3.4 void decaf::util::Timer::schedule (const decaf::lang::Pointer< TimerTask > & *task*, const Date & *firstTime*, long long *period*)

Schedules the specified task for repeated fixed-delay execution, beginning at the specified time. Subsequent executions take place at approximately regular intervals separated by the specified period.

In fixed-delay execution, each execution is scheduled relative to the actual execution time of the previous execution. If an execution is delayed for any reason (such as other background activity), subsequent executions will be delayed as well. In the long run, the frequency of execution will generally be slightly lower than the reciprocal of the specified period (assuming the system clock underlying Object.wait(long long) is accurate).

Fixed-delay execution is appropriate for recurring activities that require "smoothness." In other words, it is appropriate for activities where it is more important to keep the frequency accurate in the short run than in the long run. This includes most animation tasks, such as blinking a cursor at regular intervals. It also includes tasks wherein regular activity is performed in response to human input, such as automatically repeating a character as long as a key is held down.

Parameters:

task - task to be scheduled.

firstTime - First time at which task is to be executed.

period - time in milliseconds between successive task executions.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if time.getTime() is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

6.633.3.5 void decaf::util::Timer::schedule (TimerTask * *task*, const Date & *firstTime*, long long *period*)

Schedules the specified task for repeated fixed-delay execution, beginning at the specified time. Subsequent executions take place at approximately regular intervals separated by the specified period.

The **TimerTask** (p. 3066) pointer is considered to be owned by the **Timer** (p. 3055) class once it has been scheduled, the **Timer** (p. 3055) will destroy its TimerTask's once they have been canceled or the **Timer** (p. 3055) itself is canceled. A **TimerTask** (p. 3066) is considered scheduled only when this method return without throwing an exception, until that time ownership is not considered to have been transferred to the **Timer** (p. 3055) and the caller should ensure that the **TimerTask** (p. 3066) gets deleted if an exception is thrown and no further attempts to schedule that **TimerTask** (p. 3066) instance are planned.

In fixed-delay execution, each execution is scheduled relative to the actual execution time of the previous execution. If an execution is delayed for any reason (such as other background activity), subsequent executions will be delayed as well. In the long run, the frequency of execution will generally be slightly lower than the reciprocal of the specified period (assuming the system clock underlying Object.wait(long long) is accurate).

Fixed-delay execution is appropriate for recurring activities that require "smoothness." In other words, it is appropriate for activities where it is more important to keep the frequency accurate in

the short run than in the long run. This includes most animation tasks, such as blinking a cursor at regular intervals. It also includes tasks wherein regular activity is performed in response to human input, such as automatically repeating a character as long as a key is held down.

Parameters:

task - task to be scheduled.

firstTime - First time at which task is to be executed.

period - time in milliseconds between successive task executions.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if time.getTime() is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

6.633.3.6 void decaf::util::Timer::schedule (const decaf::lang::Pointer< TimerTask > & *task*, long long *delay*, long long *period*)

Schedules the specified task for repeated fixed-delay execution, beginning after the specified delay. Subsequent executions take place at approximately regular intervals separated by the specified period.

In fixed-delay execution, each execution is scheduled relative to the actual execution time of the previous execution. If an execution is delayed for any reason (such as other background activity), subsequent executions will be delayed as well. In the long run, the frequency of execution will generally be slightly lower than the reciprocal of the specified period (assuming the system clock underlying Object.wait(long long) is accurate).

Fixed-delay execution is appropriate for recurring activities that require "smoothness." In other words, it is appropriate for activities where it is more important to keep the frequency accurate in the short run than in the long run. This includes most animation tasks, such as blinking a cursor at regular intervals. It also includes tasks wherein regular activity is performed in response to human input, such as automatically repeating a character as long as a key is held down.

Parameters:

task - task to be scheduled.

delay - delay in milliseconds before task is to be executed.

period - time in milliseconds between successive task executions.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if delay is negative, or delay + **System.currentTimeMillis()** (p. 2969) is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

6.633.3.7 void decaf::util::Timer::schedule (TimerTask * *task*, long long *delay*, long long *period*)

Schedules the specified task for repeated fixed-delay execution, beginning after the specified delay. Subsequent executions take place at approximately regular intervals separated by the specified period.

The **TimerTask** (p. 3066) pointer is considered to be owned by the **Timer** (p. 3055) class once it has been scheduled, the **Timer** (p. 3055) will destroy its TimerTask's once they have been canceled or the **Timer** (p. 3055) itself is canceled. A **TimerTask** (p. 3066) is considered scheduled only when this method return without throwing an exception, until that time ownership is not considered to have been transferred to the **Timer** (p. 3055) and the caller should ensure that the **TimerTask** (p. 3066) gets deleted if an exception is thrown and no further attempts to schedule that **TimerTask** (p. 3066) instance are planned.

In fixed-delay execution, each execution is scheduled relative to the actual execution time of the previous execution. If an execution is delayed for any reason (such as other background activity), subsequent executions will be delayed as well. In the long run, the frequency of execution will generally be slightly lower than the reciprocal of the specified period (assuming the system clock underlying Object.wait(long long) is accurate).

Fixed-delay execution is appropriate for recurring activities that require "smoothness." In other words, it is appropriate for activities where it is more important to keep the frequency accurate in the short run than in the long run. This includes most animation tasks, such as blinking a cursor at regular intervals. It also includes tasks wherein regular activity is performed in response to human input, such as automatically repeating a character as long as a key is held down.

Parameters:

task - task to be scheduled.

delay - delay in milliseconds before task is to be executed.

period - time in milliseconds between successive task executions.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if delay is negative, or delay + **System.currentTimeMillis()** (p. 2969) is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

6.633.3.8 void decaf::util::Timer::schedule (const decaf::lang::Pointer< TimerTask > & *task*, const Date & *time*)

Schedules the specified task for execution at the specified time. If the time is in the past, the task is scheduled for immediate execution.

Parameters:

task - task to be scheduled.

time - time at which task is to be executed.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if time.getTime() is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

6.633.3.9 void decaf::util::Timer::schedule (TimerTask * *task*, const Date & *time*)

Schedules the specified task for execution at the specified time. If the time is in the past, the task is scheduled for immediate execution.

The **TimerTask** (p. 3066) pointer is considered to be owned by the **Timer** (p. 3055) class once it has been scheduled, the **Timer** (p. 3055) will destroy its TimerTask's once they have been canceled or the **Timer** (p. 3055) itself is canceled. A **TimerTask** (p. 3066) is considered scheduled only when this method return without throwing an exception, until that time ownership is not considered to have been transferred to the **Timer** (p. 3055) and the caller should ensure that the **TimerTask** (p. 3066) gets deleted if an exception is thrown and no further attempts to schedule that **TimerTask** (p. 3066) instance are planned.

Parameters:

task - task to be scheduled.

time - time at which task is to be executed.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if time.getTime() is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

6.633.3.10 void decaf::util::Timer::schedule (const decaf::lang::Pointer< TimerTask > & *task*, long long *delay*)

Schedules the specified task for execution after the specified delay.

Parameters:

task - task to be scheduled.

delay - delay in milliseconds before task is to be executed.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if delay is negative, or delay + **System.currentTimeMillis()** (p. 2969) is negative.

IllegalStateException - if task was already scheduled or canceled, or timer was canceled.

6.633.3.11 void decaf::util::Timer::schedule (TimerTask * *task*, long long *delay*)

Schedules the specified task for execution after the specified delay. The **TimerTask** (p. 3066) pointer is considered to be owned by the **Timer** (p. 3055) class once it has been scheduled, the **Timer** (p. 3055) will destroy its TimerTask's once they have been canceled or the **Timer** (p. 3055) itself is canceled. A **TimerTask** (p. 3066) is considered scheduled only when this method return without throwing an exception, until that time ownership is not considered to have been transferred to the **Timer** (p. 3055) and the caller should ensure that the **TimerTask** (p. 3066) gets deleted if an exception is thrown and no further attempts to schedule that **TimerTask** (p. 3066) instance are planned.

Parameters:

task - task to be scheduled.

delay - delay in milliseconds before task is to be executed.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if delay is negative, or delay + **System.currentTimeMillis()** (p. 2969) is negative.

IllegalStateException - if task was already scheduled or canceled, or timer was canceled.

6.633.3.12 void decaf::util::Timer::scheduleAtFixedRate (const decaf::lang::Pointer< TimerTask > & *task*, const Date & *firstTime*, long long *period*)

Schedules the specified task for repeated fixed-rate execution, beginning at the specified time. Subsequent executions take place at approximately regular intervals, separated by the specified period.

In fixed-rate execution, each execution is scheduled relative to the scheduled execution time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to "catch up." In the long run, the frequency of execution will be exactly the reciprocal of the specified period (assuming the system clock underlying Object.wait(long) is accurate).

Fixed-rate execution is appropriate for recurring activities that are sensitive to absolute time, such as ringing a chime every hour on the hour, or running scheduled maintenance every day at a particular time. It is also appropriate for recurring activities where the total time to perform a fixed number of executions is important, such as a countdown timer that ticks once every second for ten seconds. Finally, fixed-rate execution is appropriate for scheduling multiple repeating timer tasks that must remain synchronized with respect to one another.

Parameters:

task - task to be scheduled.

firstTime - First time at which task is to be executed.

period - time in milliseconds between successive task executions.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if time.getTime() is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

6.633.3.13 void decaf::util::Timer::scheduleAtFixedRate (TimerTask * *task*, const Date & *firstTime*, long long *period*)

Schedules the specified task for repeated fixed-rate execution, beginning at the specified time. Subsequent executions take place at approximately regular intervals, separated by the specified period.

The **TimerTask** (p. 3066) pointer is considered to be owned by the **Timer** (p. 3055) class once it has been scheduled, the **Timer** (p. 3055) will destroy its TimerTask's once they have been canceled or the **Timer** (p. 3055) itself is canceled. A **TimerTask** (p. 3066) is considered scheduled only when this method return without throwing an exception, until that time ownership is not considered to have been transferred to the **Timer** (p. 3055) and the caller should ensure that the **TimerTask** (p. 3066) gets deleted if an exception is thrown and no further attempts to schedule that **TimerTask** (p. 3066) instance are planned.

In fixed-rate execution, each execution is scheduled relative to the scheduled execution time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to "catch up." In the long run, the frequency of execution will be exactly the reciprocal of the specified period (assuming the system clock underlying Object.wait(long) is accurate).

Fixed-rate execution is appropriate for recurring activities that are sensitive to absolute time, such as ringing a chime every hour on the hour, or running scheduled maintenance every day at a particular time. It is also appropriate for recurring activities where the total time to perform a fixed number of executions is important, such as a countdown timer that ticks once every second for ten seconds. Finally, fixed-rate execution is appropriate for scheduling multiple repeating timer tasks that must remain synchronized with respect to one another.

Parameters:

task - task to be scheduled.

firstTime - First time at which task is to be executed.

period - time in milliseconds between successive task executions.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if time.getTime() is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

6.633.3.14 void decaf::util::Timer::scheduleAtFixedRate (const decaf::lang::Pointer< TimerTask > & *task*, long long *delay*, long long *period*)

Schedules the specified task for repeated fixed-rate execution, beginning after the specified delay. Subsequent executions take place at approximately regular intervals, separated by the specified period.

In fixed-rate execution, each execution is scheduled relative to the scheduled execution time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to "catch up." In the long run, the frequency of execution will be exactly the reciprocal of the specified period (assuming the system clock underlying Object.wait(long) is accurate).

Fixed-rate execution is appropriate for recurring activities that are sensitive to absolute time, such as ringing a chime every hour on the hour, or running scheduled maintenance every day at a particular time. It is also appropriate for recurring activities where the total time to perform a fixed number of executions is important, such as a countdown timer that ticks once every second for ten seconds. Finally, fixed-rate execution is appropriate for scheduling multiple repeating timer tasks that must remain synchronized with respect to one another.

Parameters:

task - task to be scheduled.

delay - delay in milliseconds before task is to be executed.

period - time in milliseconds between successive task executions.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if delay is negative, or delay + **System.currentTimeMillis()** (p. 2969) is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

6.633.3.15 void decaf::util::Timer::scheduleAtFixedRate (TimerTask * *task*, long long *delay*, long long *period*)

Schedules the specified task for repeated fixed-rate execution, beginning after the specified delay. Subsequent executions take place at approximately regular intervals, separated by the specified period.

The **TimerTask** (p. 3066) pointer is considered to be owned by the **Timer** (p. 3055) class once it has been scheduled, the **Timer** (p. 3055) will destroy its TimerTask's once they have been canceled or the **Timer** (p. 3055) itself is canceled. A **TimerTask** (p. 3066) is considered scheduled only when this method return without throwing an exception, until that time ownership is not considered to have been transferred to the **Timer** (p. 3055) and the caller should ensure that the **TimerTask** (p. 3066) gets deleted if an exception is thrown and no further attempts to schedule that **TimerTask** (p. 3066) instance are planned.

In fixed-rate execution, each execution is scheduled relative to the scheduled execution time of the initial execution. If an execution is delayed for any reason (such as garbage collection or other background activity), two or more executions will occur in rapid succession to "catch up." In the long run, the frequency of execution will be exactly the reciprocal of the specified period (assuming the system clock underlying Object.wait(long) is accurate).

Fixed-rate execution is appropriate for recurring activities that are sensitive to absolute time, such as ringing a chime every hour on the hour, or running scheduled maintenance every day at a particular time. It is also appropriate for recurring activities where the total time to perform a fixed number of executions is important, such as a count down timer that ticks once every second for ten seconds. Finally, fixed-rate execution is appropriate for scheduling multiple repeating timer tasks that must remain synchronized with respect to one another.

Parameters:

task - task to be scheduled.

delay - delay in milliseconds before task is to be executed.

period - time in milliseconds between successive task executions.

Exceptions:

NullPointerException - if the **TimerTask** (p. 3066) value is Null.

IllegalArgumentException - if delay is negative, or delay + **System.currentTimeMillis()** (p. 2969) is negative.

IllegalStateException - if task was already scheduled or canceled, timer was canceled, or timer thread terminated.

The documentation for this class was generated from the following file:

- src/main/decaf/util/**Timer.h**

6.634 decaf::util::TimerTask Class Reference

A Base class for a task object that can be scheduled for one-time or repeated execution by a **Timer** (p. 3055).

`#include <src/main/decaf/util/TimerTask.h>`Inheritance diagram for decaf::util::TimerTask:

Public Member Functions

- **TimerTask** ()
- virtual ~**TimerTask** ()
- bool **cancel** ()

  Cancels this timer task.

- long long **scheduledExecutionTime** () const

  Returns the scheduled execution time of the most recent actual execution of this task.

Protected Member Functions

- bool **isScheduled** () const
- void **setScheduledTime** (long long time)
- long long **getWhen** () const

Friends

- class **Timer**
- class **TimerImpl**
- class **decaf::internal::util::TimerTaskHeap**

6.634.1 Detailed Description

A Base class for a task object that can be scheduled for one-time or repeated execution by a **Timer** (p. 3055).

Since:

1.0

6.634.2 Constructor & Destructor Documentation

6.634.2.1 decaf::util::TimerTask::TimerTask ()

6.634.2.2 virtual decaf::util::TimerTask::~TimerTask () [inline, virtual]

6.634.3 Member Function Documentation

6.634.3.1 bool decaf::util::TimerTask::cancel ()

Cancels this timer task. If the task has been scheduled for one-time execution and has not yet run, or has not yet been scheduled, it will never run. If the task has been scheduled for repeated execution, it will never run again. (If the task is running when this call occurs, the task will run to completion, but will never run again.)

Note that calling this method from within the run method of a repeating timer task absolutely guarantees that the timer task will not run again.

This method may be called repeatedly; the second and subsequent calls have no effect.

Returns:

true if this task is scheduled for one-time execution and has not yet run, or this task is scheduled for repeated execution. Returns false if the task was scheduled for one-time execution and has already run, or if the task was never scheduled, or if the task was already canceled. (Loosely speaking, this method returns true if it prevents one or more scheduled executions from taking place.)

6.634.3.2 long long decaf::util::TimerTask::getWhen () const [protected]

6.634.3.3 bool decaf::util::TimerTask::isScheduled () const [protected]

6.634.3.4 long long decaf::util::TimerTask::scheduledExecutionTime () const

Returns the scheduled execution time of the most recent actual execution of this task. (If this method is invoked while task execution is in progress, the return value is the scheduled execution time of the ongoing task execution.)

This method is typically invoked from within a task's run method, to determine whether the current execution of the task is sufficiently timely to warrant performing the scheduled activity:

void **run()** (p. 2607) { if(**System::currentTimeMillis()** (p. 2969) - **scheduledExecutionTime()** (p. 3067) >= MAX_TARDINESS) return; // Too late; skip this execution. // Perform the task }

This method is typically not used in conjunction with fixed-delay execution repeating tasks, as their scheduled execution times are allowed to drift over time, and so are not terribly significant.

Returns:

the time at which the most recent execution of this task was scheduled to occur, in the format returned by **Date.getTime()** (p. 1300). The return value is undefined if the task has yet to commence its first execution.

6.634.3.5 void decaf::util::TimerTask::setScheduledTime (long long *time*) [protected]

6.634.4 Friends And Related Function Documentation

6.634.4.1 friend class decaf::internal::util::TimerTaskHeap [friend]

6.634.4.2 friend class Timer [friend]

6.634.4.3 friend class TimerImpl [friend]

The documentation for this class was generated from the following file:

- src/main/decaf/util/**TimerTask.h**

6.635 decaf::internal::util::TimerTaskHeap Class Reference

A Binary Heap implemented specifically for the Timer class in Decaf Util.

`#include <src/main/decaf/internal/util/TimerTaskHeap.h>`

Public Member Functions

- **TimerTaskHeap** ()
- virtual ~**TimerTaskHeap** ()
- **Pointer< TimerTask > peek** ()

  Peaks at the Head of the Heap, returns the task with the nearest scheduled run time.

- bool **isEmpty** () const
- std::size_t **size** () const
- void **insert** (const **Pointer< TimerTask >** &task)

  Inserts the specified Task into the heap, heap is reordered to reflect the addition of a new element.

- void **remove** (std::size_t pos)

  Removes the Task at the specified position from the heap, resorts the heap from the position down to the bottom.

- void **reset** ()

  Clear all contents from the heap.

- void **adjustMinimum** ()

  Resorts the heap starting at the top.

- std::size_t **deleteIfCancelled** ()

  Runs through the heap removing all cancelled Tasks from it, this is not normally used but in case a a cancellation of a large number of tasks the user can perform this purge.

- std::size_t **find** (const **Pointer< TimerTask >** &task) const

  Searches the heap for the specified TimerTask element and returns its position in the heap.

6.635.1 Detailed Description

A Binary Heap implemented specifically for the Timer class in Decaf Util.

Since:

1.0

6.635.2 Constructor & Destructor Documentation

6.635.2.1 decaf::internal::util::TimerTaskHeap::TimerTaskHeap ()

6.635.2.2 virtual decaf::internal::util::TimerTaskHeap::~TimerTaskHeap () [virtual]

6.635.3 Member Function Documentation

6.635.3.1 void decaf::internal::util::TimerTaskHeap::adjustMinimum ()

Resorts the heap starting at the top.

6.635.3.2 std::size_t decaf::internal::util::TimerTaskHeap::deleteIfCancelled ()

Runs through the heap removing all cancelled Tasks from it, this is not normally used but in case a a cancellation of a large number of tasks the user can perform this purge.

Returns:

the number of task that were removed from the heap becuase they were cancelled.

6.635.3.3 std::size_t decaf::internal::util::TimerTaskHeap::find (const Pointer< TimerTask > & *task*) const

Searches the heap for the specified TimerTask element and returns its position in the heap. Returns the unsigned equivalent of -1 if the element is not found.

Returns:

the position in the Heap where the Task is stored, or npos.

6.635.3.4 void decaf::internal::util::TimerTaskHeap::insert (const Pointer< TimerTask > & *task*)

Inserts the specified Task into the heap, heap is reordered to reflect the addition of a new element.

Parameters:

task The TimerTask to insert into the heap.

6.635.3.5 bool decaf::internal::util::TimerTaskHeap::isEmpty () const

Returns:

true if the heap is empty.

6.635.3.6 Pointer<TimerTask> decaf::internal::util::TimerTaskHeap::peek ()

Peaks at the Head of the Heap, returns the task with the nearest scheduled run time.

Returns:

The TimerTask that is scheduled to be executed next if the Heap is empty a Null Pointer value is returned.

6.635.3.7 void decaf::internal::util::TimerTaskHeap::remove (std::size_t *pos*)

Removes the Task at the specified position from the heap, resorts the heap from the position down to the bottom.

Parameters:

pos The position at which to remove the TimerTask and begin a resort of the heap.

6.635.3.8 void decaf::internal::util::TimerTaskHeap::reset ()

Clear all contents from the heap.

6.635.3.9 std::size_t decaf::internal::util::TimerTaskHeap::size () const

Returns:

the size of the heap.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/**TimerTaskHeap.h**

6.636 decaf::util::concurrent::TimeUnit Class Reference

A **TimeUnit** (p. 3072) represents time durations at a given unit of granularity and provides utility methods to convert across units, and to perform timing and delay operations in these units.

`#include <src/main/decaf/util/concurrent/TimeUnit.h>`Inheritance diagram for decaf::util::concurrent::TimeUnit:

Public Member Functions

- virtual ~**TimeUnit** ()
- long long **convert** (long long sourceDuration, const **TimeUnit** &sourceUnit) const

  Convert the given time duration in the given unit to this unit.

- long long **toNanos** (long long duration) const

  Equivalent to `NANOSECONDS.convert(duration, this)`.

- long long **toMicros** (long long duration) const

  Equivalent to `MICROSECONDS.convert(duration, this)`.

- long long **toMillis** (long long duration) const

  Equivalent to `MILLISECONDS.convert(duration, this)`.

- long long **toSeconds** (long long duration) const

  Equivalent to `SECONDS.convert(duration, this)`.

- long long **toMinutes** (long long duration) const

  Equivalent to `MINUTES.convert(duration, this)`.

- long long **toHours** (long long duration) const

  Equivalent to `HOURS.convert(duration, this)`.

- long long **toDays** (long long duration) const

  Equivalent to `DAYS.convert(duration, this)`.

- void **timedWait** (**Synchronizable** *obj, long long timeout) const

  Perform a timed `Object.wait` using this time unit.

- void **timedJoin** (**decaf::lang::Thread** *thread, long long timeout)

  Perform a timed `Thread.join` using this time unit.

- void **sleep** (long long timeout) const

  Perform a `Thread.sleep` using this unit.

- virtual std::string **toString** () const

  *Converts the **TimeUnit** (p. 3072) type to the Name of the **TimeUnit** (p. 3072).*

- virtual int **compareTo** (const **TimeUnit** &value) const

- virtual bool **equals** (const **TimeUnit** &value) const
- virtual bool **operator==** (const **TimeUnit** &value) const
- virtual bool **operator<** (const **TimeUnit** &value) const

Static Public Member Functions

- static const **TimeUnit** & **valueOf** (const std::string &name)

  *Returns the **TimeUnit** (p. 3072) constant of this type with the specified name.*

Static Public Attributes

- static const **TimeUnit NANOSECONDS**

  *The Actual **TimeUnit** (p. 3072) enumerations.*

- static const **TimeUnit MICROSECONDS**
- static const **TimeUnit MILLISECONDS**
- static const **TimeUnit SECONDS**
- static const **TimeUnit MINUTES**
- static const **TimeUnit HOURS**
- static const **TimeUnit DAYS**
- static const **TimeUnit** *const **values** [ ]

  *The An Array of **TimeUnit** (p. 3072) Instances.*

Protected Member Functions

- **TimeUnit** (int index, const std::string &name)

  Hidden Constructor, this class can not be instantiated directly.

6.636.1 Detailed Description

A **TimeUnit** (p. 3072) represents time durations at a given unit of granularity and provides utility methods to convert across units, and to perform timing and delay operations in these units. A **TimeUnit** (p. 3072) does not maintain time information, but only helps organize and use time representations that may be maintained separately across various contexts. A nanosecond is defined as one thousandth of a microsecond, a microsecond as one thousandth of a millisecond, a millisecond as one thousandth of a second, a minute as sixty seconds, an hour as sixty minutes, and a day as twenty four hours.

A **TimeUnit** (p. 3072) is mainly used to inform time-based methods how a given timing parameter should be interpreted. For example, the following **code** (p. 999) will timeout in 50 milliseconds if the lock is not available:

Lock (p. 1911) lock = ...; if (lock.tryLock(50, **TimeUnit.MILLISECONDS** (p. 3079))) ...

while this **code** (p. 999) will timeout in 50 seconds:

Lock (p. 1911) lock = ...; if (lock.tryLock(50, **TimeUnit.SECONDS** (p. 3079))) ...

Note however, that there is no guarantee that a particular timeout implementation will be able to notice the passage of time at the same granularity as the given **TimeUnit** (p. 3072).

6.636.2 Constructor & Destructor Documentation

6.636.2.1 decaf::util::concurrent::TimeUnit::TimeUnit (int *index*, const std::string & *name*) [protected]

Hidden Constructor, this class can not be instantiated directly.

Parameters:

index - Index into the Time Unit set.

name - Name of the unit type being represented.

6.636.2.2 virtual decaf::util::concurrent::TimeUnit::~TimeUnit () [inline, virtual]

6.636.3 Member Function Documentation

6.636.3.1 virtual int decaf::util::concurrent::TimeUnit::compareTo (const TimeUnit & *value*) const [virtual]

6.636.3.2 long long decaf::util::concurrent::TimeUnit::convert (long long *sourceDuration*, const TimeUnit & *sourceUnit*) const

Convert the given time duration in the given unit to this unit. Conversions from finer to coarser granularities truncate, so lose precision. For example converting 999 milliseconds to seconds results in 0. Conversions from coarser to finer granularities with arguments that would numerically overflow saturate to Long.MIN_VALUE if negative or Long.MAX_VALUE if positive.

For example, to convert 10 minutes to milliseconds, use: TimeUnit.MILLISECONDS.convert(10L, **TimeUnit.MINUTES** (p. 3079))

Parameters:

sourceDuration - Duration value to convert.

sourceUnit - Unit type of the source duration.

Returns:

the converted duration in this unit, or Long.MIN_VALUE if conversion would negatively overflow, or Long.MAX_VALUE if it would positively overflow.

6.636.3.3 virtual bool decaf::util::concurrent::TimeUnit::equals (const TimeUnit & *value*) const [virtual]

6.636.3.4 virtual bool decaf::util::concurrent::TimeUnit::operator< (const TimeUnit & *value*) const [virtual]

6.636.3.5 virtual bool decaf::util::concurrent::TimeUnit::operator== (const TimeUnit & *value*) const [virtual]

6.636.3.6 void decaf::util::concurrent::TimeUnit::sleep (long long *timeout*) const

Perform a `Thread.sleep` using this unit. This is a convenience method that converts time arguments into the form required by the `Thread.sleep` method.

Parameters:

timeout the minimum time to sleep

See also:

Thread::sleep

6.636.3.7 void decaf::util::concurrent::TimeUnit::timedJoin (decaf::lang::Thread * *thread*, long long *timeout*)

Perform a timed `Thread.join` using this time unit. This is a convenience method that converts time arguments into the form required by the `Thread.join` method.

Parameters:

thread the thread to wait for

timeout the maximum time to wait

Exceptions:

InterruptedException if interrupted while waiting.

NullPointerException if the thread object is null.

See also:

Thread::join(long long, long long)

6.636.3.8 void decaf::util::concurrent::TimeUnit::timedWait (Synchronizable * *obj*, long long *timeout*) const

Perform a timed `Object.wait` using this time unit. This is a convenience method that converts timeout arguments into the form required by the `Object.wait` method.

For example, you could implement a blocking `poll` method (see **BlockingQueue.poll** (p. 688)) using:

```
Object poll( long long timeout, const TimeUnit& unit )

  while( empty ) {
    unit.timedWait(this, timeout);
    ...
  }
}
```

Parameters:

obj the object to wait on

timeout the maximum time to wait.

Exceptions:

InterruptedException if interrupted while waiting.

NullPointerException if the **Synchronizable** (p. 2938) object is null.

See also:

Synchronizable::wait(long long, long long)

6.636.3.9 long long decaf::util::concurrent::TimeUnit::toDays (long long *duration*) const [inline]

Equivalent to `DAYS.convert(duration, this)`.

Parameters:

duration the duration

Returns:

the converted duration.

See also:

convert (p. 3074)

6.636.3.10 long long decaf::util::concurrent::TimeUnit::toHours (long long *duration*) const [inline]

Equivalent to `HOURS.convert(duration, this)`.

Parameters:

duration the duration

Returns:

the converted duration.

See also:

convert (p. 3074)

6.636.3.11 long long decaf::util::concurrent::TimeUnit::toMicros (long long *duration*) const [inline]

Equivalent to `MICROSECONDS.convert(duration, this)`.

Parameters:

duration the duration

Returns:

the converted duration, or `Long.MIN_VALUE` if conversion would negatively overflow, or `Long.MAX_VALUE` if it would positively overflow.

See also:

convert (p. 3074)

6.636.3.12 long long decaf::util::concurrent::TimeUnit::toMillis (long long *duration*) const [inline]

Equivalent to `MILLISECONDS.convert(duration, this)`.

Parameters:

duration the duration

Returns:

the converted duration, or `Long.MIN_VALUE` if conversion would negatively overflow, or `Long.MAX_VALUE` if it would positively overflow.

See also:

convert (p. 3074)

6.636.3.13 long long decaf::util::concurrent::TimeUnit::toMinutes (long long *duration*) const [inline]

Equivalent to `MINUTES.convert(duration, this)`.

Parameters:

duration the duration

Returns:

the converted duration.

See also:

convert (p. 3074)

6.636.3.14 long long decaf::util::concurrent::TimeUnit::toNanos (long long *duration*) const [inline]

Equivalent to `NANOSECONDS.convert(duration, this)`.

Parameters:

duration the duration

Returns:

the converted duration, or `Long.MIN_VALUE` if conversion would negatively overflow, or `Long.MAX_VALUE` if it would positively overflow.

See also:

convert (p. 3074)

Referenced by decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::offer(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::poll(), and decaf::util::concurrent::CopyOnWriteArrayList< E >::wait().

6.636.3.15 long long decaf::util::concurrent::TimeUnit::toSeconds (long long *duration*) const [inline]

Equivalent to `SECONDS.convert(duration, this)`.

Parameters:

duration the duration

Returns:

the converted duration.

See also:

convert (p. 3074)

6.636.3.16 virtual std::string decaf::util::concurrent::TimeUnit::toString () const [virtual]

Converts the **TimeUnit** (p. 3072) type to the Name of the **TimeUnit** (p. 3072).

Returns:

String name of the **TimeUnit** (p. 3072)

6.636.3.17 static const TimeUnit& decaf::util::concurrent::TimeUnit::valueOf (const std::string & *name*) [static]

Returns the **TimeUnit** (p. 3072) constant of this type with the specified name. The string must match exactly an identifier used to declare an **TimeUnit** (p. 3072) constant in this type. (Extraneous whitespace characters are not permitted.)

Parameters:

name The Name of the **TimeUnit** (p. 3072) constant to be returned.

Returns:

A constant reference to the **TimeUnit** (p. 3072) Constant with the given name.

Exceptions:

IllegalArgumentException if this enum type has no constant with the specified name

6.636.4 Field Documentation

6.636.4.1 const TimeUnit decaf::util::concurrent::TimeUnit::DAYS [static]

6.636.4.2 const TimeUnit decaf::util::concurrent::TimeUnit::HOURS [static]

6.636.4.3 const TimeUnit decaf::util::concurrent::TimeUnit::MICROSECONDS [static]

6.636.4.4 const TimeUnit decaf::util::concurrent::TimeUnit::MILLISECONDS [static]

Referenced by decaf::util::concurrent::CopyOnWriteArrayList< E >::wait().

6.636.4.5 const TimeUnit decaf::util::concurrent::TimeUnit::MINUTES [static]

6.636.4.6 const TimeUnit decaf::util::concurrent::TimeUnit::NANOSECONDS [static]

The Actual **TimeUnit** (p. 3072) enumerations.

6.636.4.7 const TimeUnit decaf::util::concurrent::TimeUnit::SECONDS [static]

6.636.4.8 const TimeUnit* const decaf::util::concurrent::TimeUnit::values[] [static]

The An Array of **TimeUnit** (p. 3072) Instances.

The documentation for this class was generated from the following file:

- src/main/decaf/util/concurrent/**TimeUnit.h**

6.637 cms::Topic Class Reference

An interface encapsulating a provider-specific topic name.

`#include <src/main/cms/Topic.h>`Inheritance diagram for cms::Topic:

Public Member Functions

- virtual ~**Topic** ()
- virtual std::string **getTopicName** () const =0

  Gets the name of this topic.

6.637.1 Detailed Description

An interface encapsulating a provider-specific topic name. A **Topic** (p. 3080) is a Publish / Subscribe type **Destination** (p. 1371). All Messages sent to a **Topic** (p. 3080) are broadcast to all Subscribers of that **Topic** (p. 3080) unless the Subscriber defines a **Message** (p. 2077) selector that filters out that **Message** (p. 2077).

Since:

1.0

6.637.2 Constructor & Destructor Documentation

6.637.2.1 virtual cms::Topic::~Topic () [virtual]

6.637.3 Member Function Documentation

6.637.3.1 virtual std::string cms::Topic::getTopicName () const [pure virtual]

Gets the name of this topic.

Returns:

The topic name.

Exceptions:

CMSException *(p. **973**)* - If an internal error occurs.

Implemented in **activemq::commands::ActiveMQTempTopic** (p. 507), and **activemq::commands::ActiveMQTopic** (p. 523).

The documentation for this class was generated from the following file:

- src/main/cms/**Topic.h**

6.638 activemq::state::Tracked Class Reference

`#include <src/main/activemq/state/Tracked.h>`Inheritance diagram for activemq::state::Tracked:

Public Member Functions

- **Tracked** ()
- **Tracked** (**decaf::lang::Pointer**< **decaf::lang::Runnable** > runnable)
- virtual ~**Tracked** ()
- void **onResponse** ()
- bool **isWaitingForResponse** () const

6.638.1 Constructor & Destructor Documentation

6.638.1.1 activemq::state::Tracked::Tracked ()

6.638.1.2 activemq::state::Tracked::Tracked (decaf::lang::Pointer< decaf::lang::Runnable > *runnable*)

6.638.1.3 virtual activemq::state::Tracked::~Tracked () `[inline, virtual]`

6.638.2 Member Function Documentation

6.638.2.1 bool activemq::state::Tracked::isWaitingForResponse () const `[inline]`

References NULL.

6.638.2.2 void activemq::state::Tracked::onResponse ()

The documentation for this class was generated from the following file:

- src/main/activemq/state/**Tracked.h**

6.639 activemq::commands::TransactionId Class Reference

`#include <src/main/activemq/commands/TransactionId.h>`Inheritance diagram for activemq::commands::TransactionId:

Public Types

- typedef **decaf::lang::PointerComparator< TransactionId > COMPARATOR**

Public Member Functions

- **TransactionId** ()
- **TransactionId** (const **TransactionId** &other)
- virtual ~**TransactionId** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **TransactionId** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual bool **isLocalTransactionId** () const
- virtual bool **isXATransactionId** () const
- virtual int **compareTo** (const **TransactionId** &value) const
- virtual bool **equals** (const **TransactionId** &value) const
- virtual bool **operator==** (const **TransactionId** &value) const
- virtual bool **operator<** (const **TransactionId** &value) const
- **TransactionId** & **operator=** (const **TransactionId** &other)
- int **getHashCode** () const

Static Public Attributes

- static const unsigned char **ID_TRANSACTIONID** = 0

6.639.1 Member Typedef Documentation

6.639.1.1 typedef decaf::lang::PointerComparator<TransactionId> activemq::commands::TransactionId::COMPARATOR

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1904), and **activemq::commands::XATransactionId** (p. 3265).

6.639.2 Constructor & Destructor Documentation

6.639.2.1 activemq::commands::TransactionId::TransactionId ()

6.639.2.2 activemq::commands::TransactionId::TransactionId (const TransactionId & *other*)

6.639.2.3 virtual activemq::commands::TransactionId::~TransactionId () [virtual]

6.639.3 Member Function Documentation

6.639.3.1 virtual TransactionId* activemq::commands::TransactionId::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1904), and **activemq::commands::XATransactionId** (p. 3266).

6.639.3.2 virtual int activemq::commands::TransactionId::compareTo (const TransactionId & *value*) const [virtual]

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1904), and **activemq::commands::XATransactionId** (p. 3266).

6.639.3.3 virtual void activemq::commands::TransactionId::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1904), and **activemq::commands::XATransactionId** (p. 3266).

6.639.3.4 virtual bool activemq::commands::TransactionId::equals (const TransactionId & *value*) const [virtual]

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1904), and **activemq::commands::XATransactionId** (p. 3266).

6.639.3.5 virtual bool activemq::commands::TransactionId::equals (const DataStructure * *value*) const [virtual]

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1905), and **activemq::commands::XATransactionId** (p. 3266).

6.639.3.6 virtual unsigned char activemq::commands::TransactionId::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1905), and **activemq::commands::XATransactionId** (p. 3267).

6.639.3.7 int activemq::commands::TransactionId::getHashCode () const

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1905), and **activemq::commands::XATransactionId** (p. 3268).

6.639.3.8 virtual bool activemq::commands::TransactionId::isLocalTransactionId () const [inline, virtual]

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1905).

6.639.3.9 virtual bool activemq::commands::TransactionId::isXATransactionId () const [inline, virtual]

Reimplemented in **activemq::commands::XATransactionId** (p. 3268).

6.639.3.10 virtual bool activemq::commands::TransactionId::operator< (const TransactionId & *value*) const [virtual]

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1905), and **activemq::commands::XATransactionId** (p. 3268).

6.639.3.11 TransactionId& activemq::commands::TransactionId::operator= (const TransactionId & *other*)

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1905), and **activemq::commands::XATransactionId** (p. 3268).

6.639.3.12 virtual bool activemq::commands::TransactionId::operator== (const TransactionId & *value*) const [virtual]

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1906), and **activemq::commands::XATransactionId** (p. 3268).

6.639.3.13 virtual std::string activemq::commands::TransactionId::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 665).

Reimplemented in **activemq::commands::LocalTransactionId** (p. 1906), and **activemq::commands::XATransactionId** (p. 3269).

6.639.4 Field Documentation

6.639.4.1 const unsigned char activemq::commands::TransactionId::ID_TRANSACTIONID = 0 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**TransactionId.h**

6.640 activemq::wireformat::openwire::marshal::generated::TransactionI Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **TransactionIdMarshaller** (p. 3086).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/TransactionIdMarshaller.h>`Inhe
diagram for activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller:

Public Member Functions

- **TransactionIdMarshaller** ()
- virtual ~**TransactionIdMarshaller** ()
- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.640.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **TransactionIdMarshaller** (p. 3086). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.640.2 Constructor & Destructor Documentation

6.640.2.1 activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller::Transaction () [inline]

6.640.2.2 virtual activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller::~Transacti () [inline, virtual]

6.640.3 Member Function Documentation

6.640.3.1 virtual void activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller::looseMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1908), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller** (p. 3271).

6.640.3.2 virtual void activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller::looseUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1909), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller** (p. 3272).

6.640.3.3 virtual int activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1909), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller** (p. 3272).

6.640.3.4 virtual void activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller::tightMarshal (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1909), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller** (p. 3272).

6.640.3.5 virtual void activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller::tightUnmarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

Reimplemented in **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller** (p. 1910), and **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller** (p. 3273).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**TransactionIdMarshaller.h**

6.641 activemq::commands::TransactionInfo Class Reference

`#include <src/main/activemq/commands/TransactionInfo.h>`Inheritance diagram for activemq::commands::TransactionInfo:

Public Member Functions

- **TransactionInfo** ()
- virtual ~**TransactionInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **TransactionInfo** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual const **Pointer**< **ConnectionId** > & **getConnectionId** () const
- virtual **Pointer**< **ConnectionId** > & **getConnectionId** ()
- virtual void **setConnectionId** (const **Pointer**< **ConnectionId** > &**connectionId**)
- virtual const **Pointer**< **TransactionId** > & **getTransactionId** () const
- virtual **Pointer**< **TransactionId** > & **getTransactionId** ()
- virtual void **setTransactionId** (const **Pointer**< **TransactionId** > &**transactionId**)
- virtual unsigned char **getType** () const
- virtual void **setType** (unsigned char **type**)
- virtual bool **isTransactionInfo** () const
- virtual **Pointer**< **Command** > **visit** (**activemq::state::CommandVisitor** *visitor)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

Static Public Attributes

- static const unsigned char **ID_TRANSACTIONINFO** = 7

Protected Attributes

- **Pointer**< **ConnectionId** > **connectionId**
- **Pointer**< **TransactionId** > **transactionId**
- unsigned char **type**

6.641.1 Constructor & Destructor Documentation

6.641.1.1 activemq::commands::TransactionInfo::TransactionInfo ()

6.641.1.2 virtual activemq::commands::TransactionInfo::~TransactionInfo () [virtual]

6.641.2 Member Function Documentation

6.641.2.1 virtual TransactionInfo* activemq::commands::TransactionInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.641.2.2 virtual void activemq::commands::TransactionInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.641.2.3 virtual bool activemq::commands::TransactionInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.641.2.4 virtual Pointer<ConnectionId>& activemq::commands::TransactionInfo::getConnectionId () [virtual]

6.641.2.5 virtual const Pointer<ConnectionId>& activemq::commands::TransactionInfo::getConnectionId () const [virtual]

6.641.2.6 virtual unsigned char activemq::commands::TransactionInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.641.2.7 virtual Pointer<TransactionId>& activemq::commands::TransactionInfo::getTransactionId () [virtual]

6.641.2.8 virtual const Pointer<TransactionId>& activemq::commands::TransactionInfo::getTransactionId () const [virtual]

6.641.2.9 virtual unsigned char activemq::commands::TransactionInfo::getType () const [virtual]

6.641.2.10 virtual bool activemq::commands::TransactionInfo::isTransactionInfo () const [inline, virtual]

Returns:

an answer of true to the **isTransactionInfo()** (p. 3092) query.

Reimplemented from **activemq::commands::BaseCommand** (p. 634).

6.641.2.11 virtual void activemq::commands::TransactionInfo::setConnectionId (const Pointer< ConnectionId > & *connectionId*) [virtual]

6.641.2.12 virtual void activemq::commands::TransactionInfo::setTransactionId (const Pointer< TransactionId > & *transactionId*) [virtual]

6.641.2.13 virtual void activemq::commands::TransactionInfo::setType (unsigned char *type*) [virtual]

6.641.2.14 virtual std::string activemq::commands::TransactionInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.641.2.15 virtual Pointer<Command> activemq::commands::TransactionInfo::visit (activemq::state::CommandVisitor * *visitor*) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.641.3 Field Documentation

6.641.3.1 Pointer<ConnectionId> activemq::commands::TransactionInfo::connectionId [protected]

6.641.3.2 const unsigned char activemq::commands::TransactionInfo::ID_TRANSACTIONINFO = 7 [static]

6.641.3.3 Pointer<TransactionId> activemq::commands::TransactionInfo::transactionId [protected]

6.641.3.4 unsigned char activemq::commands::TransactionInfo::type [protected]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**TransactionInfo.h**

6.642 activemq::wireformat::openwire::marshal::generated::TransactionI Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **TransactionInfoMarshaller** (p. 3094).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/TransactionInfoMarshaller.h>`In
diagram for activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller:

Public Member Functions

- **TransactionInfoMarshaller** ()
- virtual ~**TransactionInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.642.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **TransactionInfoMarshaller** (p. 3094). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.642.2 Constructor & Destructor Documentation

6.642.2.1 activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller::Transacti () [inline]

6.642.2.2 virtual activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller::~Transac () [inline, virtual]

6.642.3 Member Function Documentation

6.642.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller::createObje () const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.642.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller::getDataStr () const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.642.3.3 virtual void activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller::looseMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 637).

6.642.3.4 virtual void activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller::looseUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 638).

6.642.3.5 virtual int activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 639).

6.642.3.6 virtual void activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 640).

6.642.3.7 virtual void activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller::tightUnmar (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller** (p. 641).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**TransactionInfoMarshaller.h**

6.643 cms::TransactionInProgressException Class Reference

This exception is thrown when an operation is invalid because a transaction is in progress.

`#include <src/main/cms/TransactionInProgressException.h>`Inheritance diagram for cms::TransactionInProgressException:

Public Member Functions

- **TransactionInProgressException** ()
- **TransactionInProgressException** (const **TransactionInProgressException** &ex)
- **TransactionInProgressException** (const std::string &message)
- **TransactionInProgressException** (const std::string &message, const std::exception *cause)
- **TransactionInProgressException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**TransactionInProgressException** () throw ()
- virtual **TransactionInProgressException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.643.1 Detailed Description

This exception is thrown when an operation is invalid because a transaction is in progress. For instance, an attempt to call **Session::commit** (p. 2669) when a session is part of a distributed transaction should throw a **TransactionInProgressException** (p. 3098).

Since:

2.3

6.643.2 Constructor & Destructor Documentation

6.643.2.1 cms::TransactionInProgressException::TransactionInProgressException ()

6.643.2.2 cms::TransactionInProgressException::TransactionInProgressException (const TransactionInProgressException & *ex*)

6.643.2.3 cms::TransactionInProgressException::TransactionInProgressException (const std::string & *message*)

6.643.2.4 cms::TransactionInProgressException::TransactionInProgressException (const std::string & *message*, const std::exception * *cause*)

6.643.2.5 cms::TransactionInProgressException::TransactionInProgressException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.643.2.6 virtual cms::TransactionInProgressException::~TransactionInProgressException () throw () [virtual]

6.643.3 Member Function Documentation

6.643.3.1 virtual TransactionInProgressException* cms::TransactionInProgressException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**TransactionInProgressException.h**

6.644 cms::TransactionRolledBackException Class Reference

This exception must be thrown when a call to **Session.commit** (p. 2669) results in a rollback of the current transaction.

`#include <src/main/cms/TransactionRolledBackException.h>`Inheritance diagram for cms::TransactionRolledBackException:

Public Member Functions

- **TransactionRolledBackException** ()
- **TransactionRolledBackException** (const **TransactionRolledBackException** &ex)
- **TransactionRolledBackException** (const std::string &message)
- **TransactionRolledBackException** (const std::string &message, const std::exception *cause)
- **TransactionRolledBackException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**TransactionRolledBackException** () throw ()
- virtual **TransactionRolledBackException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.644.1 Detailed Description

This exception must be thrown when a call to **Session.commit** (p. 2669) results in a rollback of the current transaction.

Since:

2.3

6.644.2 Constructor & Destructor Documentation

6.644.2.1 cms::TransactionRolledBackException::TransactionRolledBackException ()

6.644.2.2 cms::TransactionRolledBackException::TransactionRolledBackException (const TransactionRolledBackException & *ex*)

6.644.2.3 cms::TransactionRolledBackException::TransactionRolledBackException (const std::string & *message*)

6.644.2.4 cms::TransactionRolledBackException::TransactionRolledBackException (const std::string & *message*, const std::exception * *cause*)

6.644.2.5 cms::TransactionRolledBackException::TransactionRolledBackException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.644.2.6 virtual cms::TransactionRolledBackException::~TransactionRolledBackException () throw () [virtual]

6.644.3 Member Function Documentation

6.644.3.1 virtual TransactionRolledBackException* cms::TransactionRolledBackException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**TransactionRolledBackException.h**

6.645 activemq::state::TransactionState Class Reference

`#include <src/main/activemq/state/TransactionState.h>`

Public Member Functions

- **TransactionState** (**Pointer**< **TransactionId** > id)
- virtual ~**TransactionState** ()
- std::string **toString** () const
- void **addCommand** (**Pointer**< **Command** > operation)
- void **checkShutdown** () const
- void **shutdown** ()
- void **clear** ()
- const **LinkedList**< **Pointer**< **Command** > > & **getCommands** () const
- const **Pointer**< **TransactionId** > **getId** () const
- void **setPrepared** (bool prepared)
- bool **isPrepared** () const
- void **setPreparedResult** (int preparedResult)
- int **getPreparedResult** () const
- void **addProducerState** (**Pointer**< **ProducerState** > producerState)
- const **decaf::util::Collection**< **Pointer**< **ProducerState** > > & **getProducerStates** ()

6.645.1 Constructor & Destructor Documentation

6.645.1.1 activemq::state::TransactionState::TransactionState (Pointer< TransactionId > *id*)

6.645.1.2 virtual activemq::state::TransactionState::~TransactionState () [virtual]

6.645.2 Member Function Documentation

6.645.2.1 void activemq::state::TransactionState::addCommand (Pointer< Command > *operation*)

6.645.2.2 void activemq::state::TransactionState::addProducerState (Pointer< ProducerState > *producerState*)

6.645.2.3 void activemq::state::TransactionState::checkShutdown () const

6.645.2.4 void activemq::state::TransactionState::clear ()

6.645.2.5 const LinkedList<Pointer<Command> >& activemq::state::TransactionState::getCommands () const [inline]

6.645.2.6 const Pointer<TransactionId> activemq::state::TransactionState::getId () const [inline]

6.645.2.7 int activemq::state::TransactionState::getPreparedResult () const [inline]

6.645.2.8 const decaf::util::Collection<Pointer<ProducerState> >& activemq::state::TransactionState::getProducerStates ()

6.645.2.9 bool activemq::state::TransactionState::isPrepared () const [inline]

6.645.2.10 void activemq::state::TransactionState::setPrepared (bool *prepared*) [inline]

6.645.2.11 void activemq::state::TransactionState::setPreparedResult (int *preparedResult*) [inline]

6.645.2.12 void activemq::state::TransactionState::shutdown ()

6.645.2.13 std::string activemq::state::TransactionState::toString () const

The documentation for this class was generated from the following file:

- src/main/activemq/state/**TransactionState.h**

6.646 decaf::internal::util::concurrent::Transferer< E > Class Template Reference

Shared **internal** (p. 96) API for dual stacks and queues.

`#include <src/main/decaf/internal/util/concurrent/Transferer.h>`Inheritance diagram for decaf::internal::util::concurrent::Transferer< E >:

6.646.1 Detailed Description

template<typename E> class decaf::internal::util::concurrent::Transferer< E >

Shared **internal** (p. 96) API for dual stacks and queues.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**Transferer.h**

6.647 decaf::internal::util::concurrent::TransferQueue< E > Class Template Reference

This extends Scherer-Scott dual queue algorithm, differing, among other ways, by using modes within nodes rather than marked pointers.

`#include <src/main/decaf/internal/util/concurrent/TransferQueue.h>`Inheritance diagram for decaf::internal::util::concurrent::TransferQueue< E >:

Public Member Functions

- **TransferQueue** ()

  *Node class for **TransferQueue** (p. 3105).*

- virtual ~**TransferQueue** ()
- virtual void **transfer** (E *e, bool timed, long long nanos)

  Performs a put.

- virtual E * **transfer** (bool timed, long long nanos)

  Performs a take.

6.647.1 Detailed Description

template<typename E> class decaf::internal::util::concurrent::TransferQueue< E >

This extends Scherer-Scott dual queue algorithm, differing, among other ways, by using modes within nodes rather than marked pointers. The algorithm is a little simpler than that for stacks because fulfillers do not need explicit nodes, and matching is done by CAS'ing QNode.item field from non-null to null (for put) or vice versa (for take).

6.647.2 Constructor & Destructor Documentation

6.647.2.1 template<typename E > decaf::internal::util::concurrent::TransferQueue< E >::TransferQueue () [inline]

Node class for **TransferQueue** (p. 3105). Tries to cancel by CAS'ing ref to NULL if that succeeds then we mark as cancelled. Returns true if this node is known to be off the queue because its next pointer has been forgotten due to an advanceHead operation.

6.647.2.2 template<typename E > virtual decaf::internal::util::concurrent::TransferQueue< E >::~TransferQueue () [inline, virtual]

6.647.3 Member Function Documentation

6.647.3.1 template<typename E > virtual E* decaf::internal::util::concurrent::TransferQueue< E >::transfer (bool *timed*, long long *nanos*) [inline, virtual]

Performs a take.

Parameters:

timed if this operation should timeout

nanos the timeout, in nanoseconds

Returns:

the item provided or received;

Exceptions:

TimeoutException if the operation timed out waiting for the producer to offer an item.

InterruptedException if the thread was interrupted while waiting for the producer to offer an item.

Implements **decaf::internal::util::concurrent::Transferer< E >** (p. 3104).

References NULL.

6.647.3.2 template<typename E > virtual void decaf::internal::util::concurrent::TransferQueue< E >::transfer (E * *e*, bool *timed*, long long *nanos*) [inline, virtual]

Performs a put.

Parameters:

e the item to be handed to a consumer;

timed if this operation should timeout

nanos the timeout, in nanoseconds

Exceptions:

TimeoutException if the operation timed out waiting for the consumer to accept the item offered.

InterruptedException if the thread was interrupted while waiting for the consumer to accept the item offered.

Implements **decaf::internal::util::concurrent::Transferer< E >** (p. 3104).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**TransferQueue.h**

6.648 decaf::internal::util::concurrent::TransferStack< E > Class Template Reference

`#include <src/main/decaf/internal/util/concurrent/TransferStack.h>`Inheritance diagram for decaf::internal::util::concurrent::TransferStack< E >:

Public Member Functions

- **TransferStack** ()
- virtual ~**TransferStack** ()
- virtual void **transfer** (E *e, bool timed, long long nanos)

  Performs a put.

- virtual E * **transfer** (bool timed, long long nanos)

  Performs a take.

template<typename E> class decaf::internal::util::concurrent::TransferStack< E >

6.648.1 Constructor & Destructor Documentation

6.648.1.1 template<typename E > decaf::internal::util::concurrent::TransferStack< E >::TransferStack () [inline]

6.648.1.2 template<typename E > virtual decaf::internal::util::concurrent::TransferStack< E >::~TransferStack () [inline, virtual]

6.648.2 Member Function Documentation

6.648.2.1 template<typename E > virtual E* decaf::internal::util::concurrent::TransferStack< E >::transfer (bool *timed*, long long *nanos*) [inline, virtual]

Performs a take.

Parameters:

timed if this operation should timeout

nanos the timeout, in nanoseconds

Returns:

the item provided or received;

Exceptions:

TimeoutException if the operation timed out waiting for the producer to offer an item.

InterruptedException if the thread was interrupted while waiting for the producer to offer an item.

Implements **decaf::internal::util::concurrent::Transferer< E >** (p. 3104).

References NULL.

6.648.2.2 template<typename E > virtual void decaf::internal::util::concurrent::TransferStack< E >::transfer (E * *e*, bool *timed*, long long *nanos*) [inline, virtual]

Performs a put.

Parameters:

e the item to be handed to a consumer;

timed if this operation should timeout

nanos the timeout, in nanoseconds

Exceptions:

TimeoutException if the operation timed out waiting for the consumer to accept the item offered.

InterruptedException if the thread was interrupted while waiting for the consumer to accept the item offered.

Implements **decaf::internal::util::concurrent::Transferer< E >** (p. 3104).

The documentation for this class was generated from the following file:

- src/main/decaf/internal/util/concurrent/**TransferStack.h**

6.649 activemq::transport::Transport Class Reference

Interface for a **transport** (p. 72) layer for command objects.

`#include <src/main/activemq/transport/Transport.h>`Inheritance diagram for activemq::transport::Transport:

Public Member Functions

- virtual ~**Transport** ()
- virtual void **start** ()=0

  *Starts the **Transport** (p. 3109), the send methods of a **Transport** (p. 3109) will throw an exception if used before the **Transport** (p. 3109) is started.*

- virtual void **stop** ()=0

  *Stops the **Transport** (p. 3109).*

- virtual void **oneway** (const **Pointer**< **Command** > command)=0

  Sends a one-way command.

- virtual **Pointer**< **FutureResponse** > **asyncRequest** (const **Pointer**< **Command** > command, const **Pointer**< **ResponseCallback** > responseCallback)=0

  *Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.*

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command)=0

  Sends the given command to the broker and then waits for the response.

- virtual **Pointer**< **Response** > **request** (const **Pointer**< **Command** > command, unsigned int timeout)=0

  Sends the given command to the broker and then waits for the response.

- virtual **Pointer**< **wireformat::WireFormat** > **getWireFormat** () const =0

  *Gets the WireFormat instance that is in use by this **transport** (p. 72).*

- virtual void **setWireFormat** (const **Pointer**< **wireformat::WireFormat** > wireFormat)=0

  Sets the WireFormat instance to use.

- virtual void **setTransportListener** (**TransportListener** *listener)=0

  *Sets the observer of asynchronous events from this **transport** (p. 72).*

- virtual **TransportListener** * **getTransportListener** () const =0

  *Gets the observer of asynchronous events from this **transport** (p. 72).*

- virtual **Transport** * **narrow** (const std::type_info &typeId)=0

  *Narrows down a Chain of Transports to a specific **Transport** (p. 3109) to allow a higher level **transport** (p. 72) to skip intermediate Transports in certain circumstances.*

- virtual bool **isFaultTolerant** () const =0

  *Is this **Transport** (p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.*

- virtual bool **isConnected** () const =0

  *Is the **Transport** (p. 3109) Connected to its Broker.*

- virtual bool **isClosed** () const =0

  *Has the **Transport** (p. 3109) been shutdown and no longer usable.*

- virtual bool **isReconnectSupported** () const =0
- virtual bool **isUpdateURIsSupported** () const =0
- virtual std::string **getRemoteAddress** () const =0
- virtual void **reconnect** (const **decaf::net::URI** &uri)=0

  reconnect to another location

- virtual void **updateURIs** (bool rebalance, const **decaf::util::List**< **decaf::net::URI** > &uris)=0

  *Updates the set of URIs the **Transport** (p. 3109) can connect to.*

6.649.1 Detailed Description

Interface for a **transport** (p. 72) layer for command objects. Callers can send oneway messages or make synchronous requests. Non-response messages will be delivered to the specified listener object upon receipt. A user of the **Transport** (p. 3109) can set an exception listener to be notified of errors that occurs in Threads that the **Transport** (p. 3109) layer runs. Transports should be given an instance of a WireFormat object when created so that they can turn the built in Commands to / from the required wire format encoding.

6.649.2 Constructor & Destructor Documentation

6.649.2.1 virtual activemq::transport::Transport::~Transport () [virtual]

6.649.3 Member Function Documentation

6.649.3.1 virtual Pointer<FutureResponse> activemq::transport::Transport::asyncRequest (const Pointer< Command > *command*, const Pointer< ResponseCallback > *responseCallback*) [pure virtual]

Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.

Parameters:

command The Command object that is to sent out.

responseCallback A callback object that will be notified once a response to the command is received.

Returns:

A **FutureResponse** (p. 1560) instance that can be queried for the Response to the Command.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2599), **activemq::transport::failover::FailoverTransport** (p. 1480), **activemq::transport::IOTransport** (p. 1780), **activemq::transport::mock::MockTransport** (p. 2210), and **activemq::transport::TransportFilter** (p. 3122).

6.649.3.2 virtual std::string activemq::transport::Transport::getRemoteAddress () const [pure virtual]

Returns:

the remote address for this connection

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1482), **activemq::transport::IOTransport** (p. 1780), **activemq::transport::mock::MockTransport** (p. 2212), and **activemq::transport::TransportFilter** (p. 3123).

6.649.3.3 virtual TransportListener* activemq::transport::Transport::getTransportListener () const [pure virtual]

Gets the observer of asynchronous events from this **transport** (p. 72).

Returns:

the listener of **transport** (p. 72) events.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1483), **activemq::transport::IOTransport** (p. 1781), **activemq::transport::mock::MockTransport** (p. 2212), and **activemq::transport::TransportFilter** (p. 3123).

6.649.3.4 virtual Pointer<wireformat::WireFormat> activemq::transport::Transport::getWireFormat () const [pure virtual]

Gets the WireFormat instance that is in use by this **transport** (p. 72). In the case of nested **transport** (p. 72) this method delegates down to the lowest level **transport** (p. 72) that actually maintains a WireFormat info instance.

Returns:

The WireFormat the object used to encode / decode **commands** (p. 61).

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1483), **activemq::transport::IOTransport** (p. 1781), **activemq::transport::mock::MockTransport** (p. 2213), and **activemq::transport::TransportFilter** (p. 3124).

6.649.3.5 virtual bool activemq::transport::Transport::isClosed () const [pure virtual]

Has the **Transport** (p. 3109) been shutdown and no longer usable.

Returns:

true if the **Transport** (p. 3109)

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1484), **activemq::transport::IOTransport** (p. 1781), **activemq::transport::mock::MockTransport** (p. 2213), and **activemq::transport::TransportFilter** (p. 3124).

6.649.3.6 virtual bool activemq::transport::Transport::isConnected () const [pure virtual]

Is the **Transport** (p. 3109) Connected to its Broker.

Returns:

true if a connection has been made.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1484), **activemq::transport::IOTransport** (p. 1781), **activemq::transport::mock::MockTransport** (p. 2213), **activemq::transport::tcp::TcpTransport** (p. 2992), and **activemq::transport::TransportFilter** (p. 3124).

6.649.3.7 virtual bool activemq::transport::Transport::isFaultTolerant () const [pure virtual]

Is this **Transport** (p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.

Returns:

true if the **Transport** (p. 3109) is fault tolerant.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1484), **activemq::transport::IOTransport** (p. 1781), **activemq::transport::mock::MockTransport** (p. 2214), **activemq::transport::tcp::TcpTransport** (p. 2992), and **activemq::transport::TransportFilter** (p. 3124).

6.649.3.8 virtual bool activemq::transport::Transport::isReconnectSupported () const [pure virtual]

Returns:

true if reconnect is supported.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1485), **activemq::transport::IOTransport** (p. 1782), **activemq::transport::mock::MockTransport** (p. 2214), and **activemq::transport::TransportFilter** (p. 3124).

6.649.3.9 virtual bool activemq::transport::Transport::isUpdateURIsSupported () const [pure virtual]

Returns:

true if updating uris is supported.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1485), **activemq::transport::IOTransport** (p. 1782), **activemq::transport::mock::MockTransport** (p. 2214), and **activemq::transport::TransportFilter** (p. 3125).

6.649.3.10 virtual Transport* activemq::transport::Transport::narrow (const std::type_info & *typeId*) [pure virtual]

Narrows down a Chain of Transports to a specific **Transport** (p. 3109) to allow a higher level **transport** (p. 72) to skip intermediate Transports in certain circumstances.

Parameters:

typeId - The type_info of the Object we are searching for.

Returns:

the requested Object. or NULL if its not in this chain.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1486), **activemq::transport::IOTransport** (p. 1782), **activemq::transport::mock::MockTransport** (p. 2215), and **activemq::transport::TransportFilter** (p. 3125).

6.649.3.11 virtual void activemq::transport::Transport::oneway (const Pointer< Command > *command*) [pure virtual]

Sends a one-way command. Does not wait for any response from the broker.

Parameters:

command The command to be sent.

Exceptions:

IOException if an exception occurs during writing of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2600), **activemq::transport::failover::FailoverTransport** (p. 1486), **activemq::transport::inactivity::InactivityMonitor** (p. 1655), **activemq::transport::IOTransport** (p. 1782), **activemq::transport::logging::LoggingTransport** (p. 1939), **activemq::transport::mock::MockTransport** (p. 2215), **activemq::transport::TransportFilter** (p. 3125), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2325).

6.649.3.12 virtual void activemq::transport::Transport::reconnect (const decaf::net::URI & *uri*) [pure virtual]

reconnect to another location

Parameters:

uri The new URI to connect this **Transport** (p. 3109) to.

Exceptions:

IOException on failure or if reconnect is not supported.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1486), and **activemq::transport::TransportFilter** (p. 3126).

6.649.3.13 virtual Pointer<Response> activemq::transport::Transport::request (const Pointer< Command > *command*, unsigned int *timeout*) [pure virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command The command to be sent.

timeout The time to wait for this response.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2600), **activemq::transport::failover::FailoverTransport** (p. 1487), **activemq::transport::IOTransport** (p. 1783), **activemq::transport::logging::LoggingTransport** (p. 1939), **activemq::transport::mock::MockTransport** (p. 2215), **activemq::transport::TransportFilter** (p. 3126), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2326).

6.649.3.14 virtual Pointer<Response> activemq::transport::Transport::request (const Pointer< Command > *command*) [pure virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command the command to be sent.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2601), **activemq::transport::failover::FailoverTransport** (p. 1487), **activemq::transport::IOTransport** (p. 1783), **activemq::transport::logging::LoggingTransport** (p. 1940), **activemq::transport::mock::MockTransport** (p. 2216), **activemq::transport::TransportFilter** (p. 3127), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2326).

6.649.3.15 virtual void activemq::transport::Transport::setTransportListener (TransportListener * *listener*) [pure virtual]

Sets the observer of asynchronous events from this **transport** (p. 72).

Parameters:

listener the listener of **transport** (p. 72) events.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1489), **activemq::transport::IOTransport** (p. 1784), **activemq::transport::mock::MockTransport** (p. 2218), and **activemq::transport::TransportFilter** (p. 3127).

6.649.3.16 virtual void activemq::transport::Transport::setWireFormat (const Pointer< wireformat::WireFormat > *wireFormat*) [pure virtual]

Sets the WireFormat instance to use.

Parameters:

wireFormat The WireFormat the object used to encode / decode **commands** (p. 61).

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1490), **activemq::transport::IOTransport** (p. 1784), **activemq::transport::mock::MockTransport** (p. 2218), and **activemq::transport::TransportFilter** (p. 3128).

6.649.3.17 virtual void activemq::transport::Transport::start () [pure virtual]

Starts the **Transport** (p. 3109), the send methods of a **Transport** (p. 3109) will throw an exception if used before the **Transport** (p. 3109) is started.

Exceptions:

IOException if and error occurs while starting the **Transport** (p. 3109).

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1490), **activemq::transport::IOTransport** (p. 1784), **activemq::transport::mock::MockTransport** (p. 2218), and **activemq::transport::TransportFilter** (p. 3128).

6.649.3.18 virtual void activemq::transport::Transport::stop () [pure virtual]

Stops the **Transport** (p. 3109).

Exceptions:

IOException if an error occurs while stopping the **transport** (p. 72).

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1490), **activemq::transport::IOTransport** (p. 1785), **activemq::transport::mock::MockTransport** (p. 2219), and **activemq::transport::TransportFilter** (p. 3128).

6.649.3.19 virtual void activemq::transport::Transport::updateURIs (bool *rebalance*, const decaf::util::List< decaf::net::URI > & *uris*) [pure virtual]

Updates the set of URIs the **Transport** (p. 3109) can connect to. If the **Transport** (p. 3109) doesn't support updating its URIs then an IOException is thrown.

Parameters:

rebalance Indicates if a forced reconnection should be performed as a result of the update.

uris The new list of URIs that can be used for connection.

Exceptions:

IOException if an error occurs or updates aren't supported.

Implemented in **activemq::transport::failover::FailoverTransport** (p. 1491), and **activemq::transport::TransportFilter** (p. 3128).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**Transport.h**

6.650 activemq::transport::TransportFactory Class Reference

Defines the interface for Factories that create Transports or TransportFilters.

`#include <src/main/activemq/transport/TransportFactory.h>`Inheritance diagram for activemq::transport::TransportFactory:

Public Member Functions

- virtual ~**TransportFactory** ()
- virtual **Pointer**< **Transport** > **create** (const **decaf::net::URI** &location)=0

  *Creates a fully configured **Transport** (p. 3109) instance which could be a chain of filters and transports.*

- virtual **Pointer**< **Transport** > **createComposite** (const **decaf::net::URI** &location)=0

  *Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.*

6.650.1 Detailed Description

Defines the interface for Factories that create Transports or TransportFilters. The factory should be able to create either a completely configured **Transport** (p. 3109) meaning that it has all the appropriate filters wrapping it, or it should be able to create a slimed down version that is used in composite transports like Failover or Fanout.

Since:

3.0

6.650.2 Constructor & Destructor Documentation

6.650.2.1 virtual activemq::transport::TransportFactory::~TransportFactory () [inline, virtual]

6.650.3 Member Function Documentation

6.650.3.1 virtual Pointer<Transport> activemq::transport::TransportFactory::create (const decaf::net::URI & *location*) [pure virtual]

Creates a fully configured **Transport** (p. 3109) instance which could be a chain of filters and transports.

Parameters:

location - URI location to connect to plus any properties to assign.

Exceptions:

ActiveMQexception if an error occurs

Implemented in **activemq::transport::failover::FailoverTransportFactory** (p. 1493), **activemq::transport::mock::MockTransportFactory** (p. 2220), and **activemq::transport::tcp::TcpTransportFactory** (p. 2994).

6.650.3.2 virtual Pointer<Transport> activemq::transport::TransportFactory::createComposite (const decaf::net::URI & *location*) [pure virtual]

Creates a slimed down **Transport** (p. 3109) instance which can be used in composite **transport** (p. 72) instances.

Parameters:

location - URI location to connect to plus any properties to assign.

Exceptions:

ActiveMQexception if an error occurs

Implemented in **activemq::transport::failover::FailoverTransportFactory** (p. 1493), **activemq::transport::mock::MockTransportFactory** (p. 2221), and **activemq::transport::tcp::TcpTransportFactory** (p. 2995).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**TransportFactory.h**

6.651 activemq::transport::TransportFilter Class Reference

A filter on the **transport** (p. 72) layer.

`#include <src/main/activemq/transport/TransportFilter.h>`Inheritance diagram for activemq::transport::TransportFilter:

Public Member Functions

- **TransportFilter** (const **Pointer< Transport >** **next**)

  Constructor.

- virtual **~TransportFilter** ()
- void **start** ()

  *Starts the **Transport** (p. 3109), the send methods of a **Transport** (p. 3109) will throw an exception if used before the **Transport** (p. 3109) is started.*

- void **stop** ()

  *Stops the **Transport** (p. 3109).*

- void **close** ()

  Closes this object and deallocates the appropriate resources.

- virtual void **onCommand** (const **Pointer< Command >** command)

  Event handler for the receipt of a command.

- virtual void **onException** (const **decaf::lang::Exception** &ex)

  *Event handler for an exception from a command **transport** (p. 72).*

- virtual void **transportInterrupted** ()

  *The **transport** (p. 72) has suffered an interruption from which it hopes to recover.*

- virtual void **transportResumed** ()

  *The **transport** (p. 72) has resumed after an interruption.*

- virtual void **oneway** (const **Pointer< Command >** command)

  Sends a one-way command.

- virtual **Pointer< FutureResponse >** **asyncRequest** (const **Pointer< Command >** command, const **Pointer< ResponseCallback >** responseCallback)

  *Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.*

- virtual **Pointer< Response >** **request** (const **Pointer< Command >** command)

  Sends the given command to the broker and then waits for the response.

- virtual **Pointer< Response >** **request** (const **Pointer< Command >** command, unsigned int timeout)

  Sends the given command to the broker and then waits for the response.

- virtual void **setTransportListener** (**TransportListener** *listener)

  *Sets the observer of asynchronous events from this **transport** (p. 72).*

- virtual **TransportListener** * **getTransportListener** () const

  *Gets the observer of asynchronous events from this **transport** (p. 72).*

- virtual **Pointer**< **wireformat::WireFormat** > **getWireFormat** () const

  *Gets the WireFormat instance that is in use by this **transport** (p. 72).*

- virtual void **setWireFormat** (const **Pointer**< **wireformat::WireFormat** > wireFormat)

  Sets the WireFormat instance to use.

- virtual **Transport** * **narrow** (const std::type_info &typeId)

  *Narrows down a Chain of Transports to a specific **Transport** (p. 3109) to allow a higher level **transport** (p. 72) to skip intermediate Transports in certain circumstances.*

- virtual bool **isFaultTolerant** () const

  *Is this **Transport** (p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.*

- virtual bool **isConnected** () const

  *Is the **Transport** (p. 3109) Connected to its Broker.*

- virtual bool **isReconnectSupported** () const
- virtual bool **isUpdateURIsSupported** () const
- virtual bool **isClosed** () const

  *Has the **Transport** (p. 3109) been shutdown and no longer usable.*

- virtual std::string **getRemoteAddress** () const
- virtual void **reconnect** (const **decaf::net::URI** &uri)

  reconnect to another location

- virtual void **updateURIs** (bool rebalance, const **decaf::util::List**< **decaf::net::URI** > &uris)

  *Updates the set of URIs the **Transport** (p. 3109) can connect to.*

Protected Member Functions

- void **checkClosed** () const

  Throws an IOException if this filter chain has already been closed.

- virtual void **beforeNextIsStarted** ()

  Subclasses can override this method to do their own startup work.

- virtual void **afterNextIsStarted** ()

  Subclasses can override this method to do their own post startup work.

- virtual void **beforeNextIsStopped** ()

  Subclasses can override this method to do their own pre-stop work.

- virtual void **afterNextIsStopped** ()

  Subclasses can override this method to do their own stop work.

- virtual void **doClose** ()

  Subclasses can override this method to do their own close work.

Protected Attributes

- **Pointer< Transport > next**

  *The **transport** (p. 72) that this filter wraps around.*

- **TransportListener * listener**

  *Listener of this **transport** (p. 72).*

6.651.1 Detailed Description

A filter on the **transport** (p. 72) layer. **Transport** (p. 3109) filters implement the **Transport** (p. 3109) interface and optionally delegate calls to another **Transport** (p. 3109) object.

Since:

1.0

6.651.2 Constructor & Destructor Documentation

6.651.2.1 activemq::transport::TransportFilter::TransportFilter (const Pointer< Transport > *next*)

Constructor.

Parameters:

next - the next **Transport** (p. 3109) in the chain

6.651.2.2 virtual activemq::transport::TransportFilter::~TransportFilter () [virtual]

6.651.3 Member Function Documentation

6.651.3.1 virtual void activemq::transport::TransportFilter::afterNextIsStarted () [inline, protected, virtual]

Subclasses can override this method to do their own post startup work. This method will always be called after the doStart() method and the next transport's own **start()** (p. 3128) methods have been successfully run.

Reimplemented in **activemq::transport::inactivity::InactivityMonitor** (p. 1654), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2325).

6.651.3.2 virtual void activemq::transport::TransportFilter::afterNextIsStopped () [inline, protected, virtual]

Subclasses can override this method to do their own stop work. This method is always called after all the next transports have been stopped to prevent this **transport** (p. 72) for destroying resources needed by the lower level transports.

Reimplemented in **activemq::transport::tcp::TcpTransport** (p. 2990), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2325).

6.651.3.3 virtual Pointer<FutureResponse> activemq::transport::TransportFilter::asyncRequest (const Pointer< Command > *command*, const Pointer< ResponseCallback > *responseCallback*) [inline, virtual]

Sends a **commands** (p. 61) asynchronously, returning a **FutureResponse** (p. 1560) object that the caller can use to check to find out the response from the broker.

Parameters:

command The Command object that is to sent out.

responseCallback A callback object that will be notified once a response to the command is received.

Returns:

A **FutureResponse** (p. 1560) instance that can be queried for the Response to the Command.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3110).

Reimplemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2599).

6.651.3.4 virtual void activemq::transport::TransportFilter::beforeNextIsStarted () [inline, protected, virtual]

Subclasses can override this method to do their own startup work. This method will always be called before the next **transport** (p. 72) in the chain is called in order to allow this **transport** (p. 72) a chance to initialize required resources.

Reimplemented in **activemq::transport::tcp::TcpTransport** (p. 2991).

6.651.3.5 virtual void activemq::transport::TransportFilter::beforeNextIsStopped () [inline, protected, virtual]

Subclasses can override this method to do their own pre-stop work. This method will always be called before the next transport's own **stop()** (p. 3128) method or this filter's own doStop()

method is called.

Reimplemented in **activemq::transport::inactivity::InactivityMonitor** (p. 1654).

6.651.3.6 void activemq::transport::TransportFilter::checkClosed () const [protected]

Throws an IOException if this filter chain has already been closed.

6.651.3.7 void activemq::transport::TransportFilter::close () [virtual]

Closes this object and deallocates the appropriate resources. The object is generally no longer usable after calling close.

Exceptions:

IOException if an error occurs while closing.

Implements **decaf::io::Closeable** (p. 961).

6.651.3.8 virtual void activemq::transport::TransportFilter::doClose () [inline, protected, virtual]

Subclasses can override this method to do their own close work. This method is always called after all the next transports have been closed to prevent this **transport** (p. 72) for destroying resources needed by the lower level transports.

Reimplemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2599), **activemq::transport::inactivity::InactivityMonitor** (p. 1654), and **activemq::transport::tcp::TcpTransport** (p. 2992).

6.651.3.9 virtual std::string activemq::transport::TransportFilter::getRemoteAddress () const [inline, virtual]

Returns:

the remote address for this connection

Implements **activemq::transport::Transport** (p. 3111).

6.651.3.10 virtual TransportListener* activemq::transport::TransportFilter::getTransportListener () const [inline, virtual]

Gets the observer of asynchronous events from this **transport** (p. 72).

Returns:

the listener of **transport** (p. 72) events.

Implements **activemq::transport::Transport** (p. 3111).

6.651.3.11 virtual Pointer<wireformat::WireFormat> activemq::transport::TransportFilter::getWireFormat () const [virtual]

Gets the WireFormat instance that is in use by this **transport** (p. 72). In the case of nested **transport** (p. 72) this method delegates down to the lowest level **transport** (p. 72) that actually maintains a WireFormat info instance.

Returns:

The WireFormat the object used to encode / decode **commands** (p. 61).

Implements **activemq::transport::Transport** (p. 3111).

6.651.3.12 virtual bool activemq::transport::TransportFilter::isClosed () const [virtual]

Has the **Transport** (p. 3109) been shutdown and no longer usable.

Returns:

true if the **Transport** (p. 3109)

Implements **activemq::transport::Transport** (p. 3112).

6.651.3.13 virtual bool activemq::transport::TransportFilter::isConnected () const [inline, virtual]

Is the **Transport** (p. 3109) Connected to its Broker.

Returns:

true if a connection has been made.

Implements **activemq::transport::Transport** (p. 3112).

Reimplemented in **activemq::transport::tcp::TcpTransport** (p. 2992).

6.651.3.14 virtual bool activemq::transport::TransportFilter::isFaultTolerant () const [inline, virtual]

Is this **Transport** (p. 3109) fault tolerant, meaning that it will reconnect to a broker on disconnect.

Returns:

true if the **Transport** (p. 3109) is fault tolerant.

Implements **activemq::transport::Transport** (p. 3112).

Reimplemented in **activemq::transport::tcp::TcpTransport** (p. 2992).

6.651.3.15 virtual bool activemq::transport::TransportFilter::isReconnectSupported () const [inline, virtual]

Returns:

true if reconnect is supported.

Implements **activemq::transport::Transport** (p. 3112).

6.651.3.16 virtual bool activemq::transport::TransportFilter::isUpdateURIsSupported () const [inline, virtual]

Returns:

true if updating uris is supported.

Implements **activemq::transport::Transport** (p. 3113).

6.651.3.17 virtual Transport* activemq::transport::TransportFilter::narrow (const std::type_info & *typeId*) [virtual]

Narrows down a Chain of Transports to a specific **Transport** (p. 3109) to allow a higher level **transport** (p. 72) to skip intermediate Transports in certain circumstances.

Parameters:

typeId - The type_info of the Object we are searching for.

Returns:

the requested Object. or NULL if its not in this chain.

Implements **activemq::transport::Transport** (p. 3113).

6.651.3.18 virtual void activemq::transport::TransportFilter::onCommand (const Pointer< Command > *command*) [virtual]

Event handler for the receipt of a command.

Parameters:

command - the received command object.

Implements **activemq::transport::TransportListener** (p. 3130).

Reimplemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2600), **activemq::transport::inactivity::InactivityMonitor** (p. 1655), **activemq::transport::logging::LoggingTransport** (p. 1939), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2325).

6.651.3.19 virtual void activemq::transport::TransportFilter::oneway (const Pointer< Command > *command*) [inline, virtual]

Sends a one-way command. Does not wait for any response from the broker.

Parameters:

command The command to be sent.

Exceptions:

IOException if an exception occurs during writing of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3113).

Reimplemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2600), **activemq::transport::inactivity::InactivityMonitor** (p. 1655), **activemq::transport::logging::LoggingTransport** (p. 1939), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2325).

6.651.3.20 virtual void activemq::transport::TransportFilter::onException (const decaf::lang::Exception & *ex*) [virtual]

Event handler for an exception from a command **transport** (p. 72).

Parameters:

ex The exception to handle.

Implements **activemq::transport::TransportListener** (p. 3131).

Reimplemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2600), **activemq::transport::inactivity::InactivityMonitor** (p. 1655), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2326).

6.651.3.21 virtual void activemq::transport::TransportFilter::reconnect (const decaf::net::URI & *uri*) [virtual]

reconnect to another location

Parameters:

uri The new URI to connect this **Transport** (p. 3109) to.

Exceptions:

IOException on failure or if reconnect is not supported.

Implements **activemq::transport::Transport** (p. 3114).

6.651.3.22 virtual Pointer<Response> activemq::transport::TransportFilter::request (const Pointer< Command > *command*, unsigned int *timeout*) [inline, virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command The command to be sent.

timeout The time to wait for this response.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3114).

Reimplemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2600), **activemq::transport::logging::LoggingTransport** (p. 1939), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2326).

6.651.3.23 virtual Pointer<Response> activemq::transport::TransportFilter::request (const Pointer< Command > *command*) [inline, virtual]

Sends the given command to the broker and then waits for the response.

Parameters:

command the command to be sent.

Returns:

the response from the broker.

Exceptions:

IOException if an exception occurs during the read of the command.

UnsupportedOperationException if this method is not implemented by this **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3114).

Reimplemented in **activemq::transport::correlator::ResponseCorrelator** (p. 2601), **activemq::transport::logging::LoggingTransport** (p. 1940), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2326).

6.651.3.24 virtual void activemq::transport::TransportFilter::setTransportListener (TransportListener * *listener*) [inline, virtual]

Sets the observer of asynchronous events from this **transport** (p. 72).

Parameters:

listener the listener of **transport** (p. 72) events.

Implements **activemq::transport::Transport** (p. 3115).

6.651.3.25 virtual void activemq::transport::TransportFilter::setWireFormat (const Pointer< wireformat::WireFormat > *wireFormat*) [virtual]

Sets the WireFormat instance to use.

Parameters:

wireFormat The WireFormat the object used to encode / decode **commands** (p. 61).

Implements **activemq::transport::Transport** (p. 3115).

6.651.3.26 void activemq::transport::TransportFilter::start () [virtual]

Starts the **Transport** (p. 3109), the send methods of a **Transport** (p. 3109) will throw an exception if used before the **Transport** (p. 3109) is started.

Exceptions:

IOException if and error occurs while starting the **Transport** (p. 3109).

Implements **activemq::transport::Transport** (p. 3115).

6.651.3.27 void activemq::transport::TransportFilter::stop () [virtual]

Stops the **Transport** (p. 3109).

Exceptions:

IOException if an error occurs while stopping the **transport** (p. 72).

Implements **activemq::transport::Transport** (p. 3116).

6.651.3.28 virtual void activemq::transport::TransportFilter::transportInterrupted () [virtual]

The **transport** (p. 72) has suffered an interruption from which it hopes to recover.

Implements **activemq::transport::TransportListener** (p. 3131).

6.651.3.29 virtual void activemq::transport::TransportFilter::transportResumed () [virtual]

The **transport** (p. 72) has resumed after an interruption.

Implements **activemq::transport::TransportListener** (p. 3131).

6.651.3.30 virtual void activemq::transport::TransportFilter::updateURIs (bool *rebalance*, const decaf::util::List< decaf::net::URI > & *uris*) [inline, virtual]

Updates the set of URIs the **Transport** (p. 3109) can connect to. If the **Transport** (p. 3109) doesn't support updating its URIs then an IOException is thrown.

Parameters:

rebalance Indicates if a forced reconnection should be performed as a result of the update.

uris The new list of URIs that can be used for connection.

Exceptions:

IOException if an error occurs or updates aren't supported.

Implements **activemq::transport::Transport** (p. 3116).

6.651.4 Field Documentation

6.651.4.1 TransportListener* activemq::transport::TransportFilter::listener [protected]

Listener of this **transport** (p. 72).

6.651.4.2 Pointer<Transport> activemq::transport::TransportFilter::next [protected]

The **transport** (p. 72) that this filter wraps around.

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**TransportFilter.h**

6.652 activemq::transport::TransportListener Class Reference

A listener of asynchronous **exceptions** (p. 67) from a command **transport** (p. 72) object.

`#include <src/main/activemq/transport/TransportListener.h>`Inheritance diagram for activemq::transport::TransportListener:

Public Member Functions

- virtual ~**TransportListener** ()
- virtual void **onCommand** (const **Pointer**< **Command** > command)=0

  Event handler for the receipt of a command.

- virtual void **onException** (const **decaf::lang::Exception** &ex)=0

  *Event handler for an exception from a command **transport** (p. 72).*

- virtual void **transportInterrupted** ()=0

  *The **transport** (p. 72) has suffered an interruption from which it hopes to recover.*

- virtual void **transportResumed** ()=0

  *The **transport** (p. 72) has resumed after an interruption.*

6.652.1 Detailed Description

A listener of asynchronous **exceptions** (p. 67) from a command **transport** (p. 72) object.

6.652.2 Constructor & Destructor Documentation

6.652.2.1 virtual activemq::transport::TransportListener::~TransportListener () `[inline, virtual]`

6.652.3 Member Function Documentation

6.652.3.1 virtual void activemq::transport::TransportListener::onCommand (const Pointer< Command > *command*) `[pure virtual]`

Event handler for the receipt of a command. The **transport** (p. 72) passes off all received **commands** (p. 61) to its listeners, the listener then owns the Object. If there is no registered listener the **Transport** (p. 3109) deletes the command upon receipt.

Parameters:

command The received command object.

Implemented in **activemq::core::ActiveMQConnection** (p. 255), **activemq::transport::correlator::ResponseCorrelator** (p. 2600), **activemq::transport::DefaultTransportListener** (p. 1342), **activemq::transport::failover::FailoverTransportListener** (p. 1496), **activemq::transport::inactivity::InactivityMonitor** (p. 1655), **activemq::transport::logging::LoggingTransport** (p. 1939), **activemq::transport::mock::InternalCommandListener** (p. 1751), **activemq::transport::TransportFilter** (p. 3125), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2325).

6.652.3.2 virtual void activemq::transport::TransportListener::onException (const decaf::lang::Exception & *ex*) [pure virtual]

Event handler for an exception from a command **transport** (p. 72).

Parameters:

ex The exception being propagated to this listener to handle.

Implemented in **activemq::core::ActiveMQConnection** (p. 255), **activemq::transport::correlator::ResponseCorrelator** (p. 2600), **activemq::transport::failover::BackupTransport** (p. 622), **activemq::transport::failover::FailoverTransportListener** (p. 1496), **activemq::transport::inactivity::InactivityMonitor** (p. 1655), **activemq::transport::TransportFilter** (p. 3126), and **activemq::wireformat::openwire::OpenWireFormatNegotiator** (p. 2326).

6.652.3.3 virtual void activemq::transport::TransportListener::transportInterrupted () [pure virtual]

The **transport** (p. 72) has suffered an interruption from which it hopes to recover.

Implemented in **activemq::core::ActiveMQConnection** (p. 265), **activemq::transport::DefaultTransportListener** (p. 1343), **activemq::transport::failover::FailoverTransportListener** (p. 1496), and **activemq::transport::TransportFilter** (p. 3128).

6.652.3.4 virtual void activemq::transport::TransportListener::transportResumed () [pure virtual]

The **transport** (p. 72) has resumed after an interruption.

Implemented in **activemq::core::ActiveMQConnection** (p. 266), **activemq::transport::DefaultTransportListener** (p. 1343), **activemq::transport::failover::FailoverTransportListener** (p. 1496), and **activemq::transport::TransportFilter** (p. 3128).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**TransportListener.h**

6.653 activemq::transport::TransportRegistry Class Reference

Registry of all **Transport** (p. 3109) Factories that are available to the client at runtime.

`#include <src/main/activemq/transport/TransportRegistry.h>`

Public Member Functions

- virtual ~**TransportRegistry** ()
- **TransportFactory** * **findFactory** (const std::string &name) const

  *Gets a Registered **TransportFactory** (p. 3117) from the Registry and returns it if there is not a registered format factory with the given name an exception is thrown.*

- void **registerFactory** (const std::string &name, **TransportFactory** *factory)

  *Registers a new **TransportFactory** (p. 3117) with this Registry.*

- void **unregisterFactory** (const std::string &name)

  Unregisters the Factory with the given name and deletes that instance of the Factory.

- void **unregisterAllFactories** ()

  Removes all Factories and deletes the instances of the Factory objects.

- std::vector< std::string > **getTransportNames** () const

  Retrieves a list of the names of all the Registered Transport's in this Registry.

Static Public Member Functions

- static **TransportRegistry** & **getInstance** ()

  *Gets the single instance of the **TransportRegistry** (p. 3132).*

Friends

- class **activemq::library::ActiveMQCPP**

6.653.1 Detailed Description

Registry of all **Transport** (p. 3109) Factories that are available to the client at runtime. New Transport's must have a factory registered here before a connection attempt is made.

Since:

3.0

6.653.2 Constructor & Destructor Documentation

6.653.2.1 virtual activemq::transport::TransportRegistry::~TransportRegistry () [virtual]

6.653.3 Member Function Documentation

6.653.3.1 TransportFactory* activemq::transport::TransportRegistry::findFactory (const std::string & *name*) const

Gets a Registered **TransportFactory** (p. 3117) from the Registry and returns it if there is not a registered format factory with the given name an exception is thrown.

Parameters:

name The name of the Factory to find in the Registry.

Returns:

the Factory registered under the given name.

Exceptions:

NoSuchElementException if no factory is registered with that name.

6.653.3.2 static TransportRegistry& activemq::transport::TransportRegistry::getInstance () [static]

Gets the single instance of the **TransportRegistry** (p. 3132).

Returns:

reference to the single instance of this Registry

6.653.3.3 std::vector<std::string> activemq::transport::TransportRegistry::getTransportNames () const

Retrieves a list of the names of all the Registered Transport's in this Registry.

Returns:

stl vector of strings with all the **Transport** (p. 3109) names registered.

6.653.3.4 void activemq::transport::TransportRegistry::registerFactory (const std::string & *name*, TransportFactory * *factory*)

Registers a new **TransportFactory** (p. 3117) with this Registry. If a Factory with the given name is already registered it is overwritten with the new one. Once a factory is added to the Registry its lifetime is controlled by the Registry, it will be deleted once the Registry has been deleted.

Parameters:

name The name of the new Factory to register.

factory The new Factory to add to the Registry.

Exceptions:

IllegalArgumentException is name is the empty string.

NullPointerException if the Factory is Null.

6.653.3.5 void activemq::transport::TransportRegistry::unregisterAllFactories ()

Removes all Factories and deletes the instances of the Factory objects.

6.653.3.6 void activemq::transport::TransportRegistry::unregisterFactory (const std::string & *name*)

Unregisters the Factory with the given name and deletes that instance of the Factory.

Parameters:

name Name of the Factory to unregister and destroy

6.653.4 Friends And Related Function Documentation

6.653.4.1 friend class activemq::library::ActiveMQCPP [friend]

The documentation for this class was generated from the following file:

- src/main/activemq/transport/**TransportRegistry.h**

6.654 tree_desc_s Struct Reference

`#include <src/main/decaf/internal/util/zip/deflate.h>`

Data Fields

- **ct_data** * **dyn_tree**
- int **max_code**
- **static_tree_desc** * **stat_desc**

6.654.1 Field Documentation

6.654.1.1 ct_data* tree_desc_s::dyn_tree

6.654.1.2 int tree_desc_s::max_code

6.654.1.3 static_tree_desc* tree_desc_s::stat_desc

The documentation for this struct was generated from the following file:

- src/main/decaf/internal/util/zip/**deflate.h**

6.655 decaf::lang::Types Class Reference

`#include <src/main/decaf/lang/Types.h>`

Public Member Functions

- **Types** ()
- virtual ~**Types** ()
- template<typename T >
  bool **isPointer** () const

6.655.1 Constructor & Destructor Documentation

6.655.1.1 decaf::lang::Types::Types ()

6.655.1.2 virtual decaf::lang::Types::~Types () [virtual]

6.655.2 Member Function Documentation

6.655.2.1 template<typename T > bool decaf::lang::Types::isPointer () const [inline]

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Types.h**

6.656 decaf::lang::Thread::UncaughtExceptionHandler Class Reference

Interface for handlers invoked when a **Thread** (p. 3000) abruptly terminates due to an uncaught exception.

`#include <src/main/decaf/lang/Thread.h>`

Public Member Functions

- virtual ~**UncaughtExceptionHandler** ()
- virtual void **uncaughtException** (const **Thread** *thread, const **Throwable** &error)=0

  Method invoked when the given thread terminates due to the given uncaught exception.

6.656.1 Detailed Description

Interface for handlers invoked when a **Thread** (p. 3000) abruptly terminates due to an uncaught exception.

6.656.2 Constructor & Destructor Documentation

6.656.2.1 virtual decaf::lang::Thread::UncaughtExceptionHandler::~UncaughtExceptionHandler () [inline, virtual]

6.656.3 Member Function Documentation

6.656.3.1 virtual void decaf::lang::Thread::UncaughtExceptionHandler::uncaughtException (const Thread * *thread*, const Throwable & *error*) [pure virtual]

Method invoked when the given thread terminates due to the given uncaught exception. This method is defined to indicate that it will not throw an exception, throwing and exception from this method will on most systems result in a segmentation fault.

The documentation for this class was generated from the following file:

- src/main/decaf/lang/**Thread.h**

6.657 decaf::net::UnknownHostException Class Reference

`#include <src/main/decaf/net/UnknownHostException.h>`Inheritance diagram for decaf::net::UnknownHostException:

Public Member Functions

- **UnknownHostException** ()

  Default Constructor.

- **UnknownHostException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **UnknownHostException** (const **UnknownHostException** &ex)

  Copy Constructor.

- **UnknownHostException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **UnknownHostException** (const std::exception *cause)

  Constructor.

- **UnknownHostException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **UnknownHostException** * **clone** () const

  Clones this exception.

- virtual ~**UnknownHostException** () throw ()

6.657.1 Constructor & Destructor Documentation

6.657.1.1 decaf::net::UnknownHostException::UnknownHostException ()

Default Constructor.

6.657.1.2 decaf::net::UnknownHostException::UnknownHostException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.657.1.3 decaf::net::UnknownHostException::UnknownHostException (const UnknownHostException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.657.1.4 decaf::net::UnknownHostException::UnknownHostException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.657.1.5 decaf::net::UnknownHostException::UnknownHostException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.657.1.6 decaf::net::UnknownHostException::UnknownHostException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.657.1.7 virtual decaf::net::UnknownHostException::~UnknownHostException () throw () [virtual]

6.657.2 Member Function Documentation

6.657.2.1 virtual UnknownHostException* decaf::net::UnknownHostException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::io::IOException** (p. 1775).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**UnknownHostException.h**

6.658 decaf::net::UnknownServiceException Class Reference

`#include <src/main/decaf/net/UnknownServiceException.h>`Inheritance diagram for decaf::net::UnknownServiceException:

Public Member Functions

- **UnknownServiceException** ()

  Default Constructor.

- **UnknownServiceException** (const Exception &ex)

  Conversion Constructor from some other Exception.

- **UnknownServiceException** (const **UnknownServiceException** &ex)

  Copy Constructor.

- **UnknownServiceException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **UnknownServiceException** (const std::exception *cause)

  Constructor.

- **UnknownServiceException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- virtual **UnknownServiceException** * **clone** () const

  Clones this exception.

- virtual ~**UnknownServiceException** () throw ()

6.658.1 Constructor & Destructor Documentation

6.658.1.1 decaf::net::UnknownServiceException::UnknownServiceException ()

Default Constructor.

6.658.1.2 decaf::net::UnknownServiceException::UnknownServiceException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.658.1.3 decaf::net::UnknownServiceException::UnknownServiceException (const UnknownServiceException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.658.1.4 decaf::net::UnknownServiceException::UnknownServiceException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.658.1.5 decaf::net::UnknownServiceException::UnknownServiceException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.658.1.6 decaf::net::UnknownServiceException::UnknownServiceException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.658.1.7 virtual decaf::net::UnknownServiceException::~UnknownServiceException () throw () [virtual]

6.658.2 Member Function Documentation

6.658.2.1 virtual UnknownServiceException* decaf::net::UnknownServiceException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::io::IOException** (p. 1775).

The documentation for this class was generated from the following file:

- src/main/decaf/net/**UnknownServiceException.h**

6.659 decaf::io::UnsupportedEncodingException Class Reference

Thrown when the the Character Encoding is not supported.

`#include <src/main/decaf/io/UnsupportedEncodingException.h>`Inheritance diagram for decaf::io::UnsupportedEncodingException:

Public Member Functions

- **UnsupportedEncodingException** ()
  Default Constructor.
- **UnsupportedEncodingException** (const **lang::Exception** &ex)
  Copy Constructor.
- **UnsupportedEncodingException** (const **UnsupportedEncodingException** &ex)
  Copy Constructor.
- **UnsupportedEncodingException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **UnsupportedEncodingException** (const std::exception *cause)
  Constructor.
- **UnsupportedEncodingException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor.
- virtual **UnsupportedEncodingException** * **clone** () const
  Clones this exception.
- virtual ~**UnsupportedEncodingException** () throw ()

6.659.1 Detailed Description

Thrown when the the Character Encoding is not supported.

Since:

1.0

6.659.2 Constructor & Destructor Documentation

6.659.2.1 decaf::io::UnsupportedEncodingException::UnsupportedEncodingException ()

Default Constructor.

6.659.2.2 decaf::io::UnsupportedEncodingException::UnsupportedEncodingException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.659.2.3 decaf::io::UnsupportedEncodingException::UnsupportedEncodingException (const UnsupportedEncodingException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.659.2.4 decaf::io::UnsupportedEncodingException::UnsupportedEncodingException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.659.2.5 decaf::io::UnsupportedEncodingException::UnsupportedEncodingException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.659.2.6 decaf::io::UnsupportedEncodingException::UnsupportedEncodingException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.659.2.7 virtual decaf::io::UnsupportedEncodingException::~UnsupportedEncodingException () throw () [virtual]

6.659.3 Member Function Documentation

6.659.3.1 virtual UnsupportedEncodingException* decaf::io::UnsupportedEncodingException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A new instance of an Exception object that is a copy of this instance.

Reimplemented from **decaf::io::IOException** (p. 1775).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**UnsupportedEncodingException.h**

6.660 decaf::lang::exceptions::UnsupportedOperationException Class Reference

`#include <src/main/decaf/lang/exceptions/UnsupportedOperationException.h>`Inheritance diagram for decaf::lang::exceptions::UnsupportedOperationException:

Public Member Functions

- **UnsupportedOperationException** ()
  Default Constructor.
- **UnsupportedOperationException** (const **Exception** &ex)
  Conversion Constructor from some other ***Exception*** *(*p. *1445**).*
- **UnsupportedOperationException** (const **UnsupportedOperationException** &ex)
  Copy Constructor.
- **UnsupportedOperationException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **UnsupportedOperationException** (const std::exception *cause)
  Constructor.
- **UnsupportedOperationException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **UnsupportedOperationException** * **clone** () const
  Clones this exception.
- virtual ~**UnsupportedOperationException** () throw ()

6.660.1 Constructor & Destructor Documentation

6.660.1.1 decaf::lang::exceptions::UnsupportedOperationException::UnsupportedOperationExceptio ()

Default Constructor.

6.660.1.2 decaf::lang::exceptions::UnsupportedOperationException::UnsupportedOperationExceptio (const Exception & *ex*)

Conversion Constructor from some other **Exception** (p. 1445).

Parameters:

ex An exception that should become this type of **Exception** (p. 1445)

6.660.1.3 decaf::lang::exceptions::UnsupportedOperationException::UnsupportedOperationExceptio (const UnsupportedOperationException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of **Exception** (p. 1445)

6.660.1.4 decaf::lang::exceptions::UnsupportedOperationException::UnsupportedOperationExceptio (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.660.1.5 decaf::lang::exceptions::UnsupportedOperationException::UnsupportedOperationExceptio (const std::exception * *cause*)

Constructor.

Parameters:

cause **Pointer** (p. 2355) to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.660.1.6 decaf::lang::exceptions::UnsupportedOperationException::UnsupportedOperationExceptio (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.660.1.7 virtual decaf::lang::exceptions::UnsupportedOperationException::~UnsupportedOperationExcept () throw () [virtual]

6.660.2 Member Function Documentation

6.660.2.1 virtual UnsupportedOperationException* decaf::lang::exceptions::UnsupportedOperationException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

an new **Exception** (p. 1445) instance that is a copy of this one.

Reimplemented from **decaf::lang::Exception** (p. 1447).

Reimplemented in **decaf::nio::ReadOnlyBufferException** (p. 2522).

The documentation for this class was generated from the following file:

- src/main/decaf/lang/exceptions/**UnsupportedOperationException.h**

6.661 cms::UnsupportedOperationException Class Reference

This exception must be thrown when a CMS client attempts use a CMS method that is not implemented or not supported by the CMS Provider in use.

`#include <src/main/cms/UnsupportedOperationException.h>`Inheritance diagram for cms::UnsupportedOperationException:

Public Member Functions

- **UnsupportedOperationException** ()
- **UnsupportedOperationException** (const **UnsupportedOperationException** &ex)
- **UnsupportedOperationException** (const std::string &message)
- **UnsupportedOperationException** (const std::string &message, const std::exception *cause)
- **UnsupportedOperationException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**UnsupportedOperationException** () throw ()
- virtual **UnsupportedOperationException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

6.661.1 Detailed Description

This exception must be thrown when a CMS client attempts use a CMS method that is not implemented or not supported by the CMS Provider in use.

Since:

2.0

6.661.2 Constructor & Destructor Documentation

6.661.2.1 cms::UnsupportedOperationException::UnsupportedOperationException ()

6.661.2.2 cms::UnsupportedOperationException::UnsupportedOperationException (const UnsupportedOperationException & *ex*)

6.661.2.3 cms::UnsupportedOperationException::UnsupportedOperationException (const std::string & *message*)

6.661.2.4 cms::UnsupportedOperationException::UnsupportedOperationException (const std::string & *message*, const std::exception * *cause*)

6.661.2.5 cms::UnsupportedOperationException::UnsupportedOperationException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.661.2.6 virtual cms::UnsupportedOperationException::~UnsupportedOperationException () throw () [virtual]

6.661.3 Member Function Documentation

6.661.3.1 virtual UnsupportedOperationException* cms::UnsupportedOperationException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

The documentation for this class was generated from the following file:

- src/main/cms/**UnsupportedOperationException.h**

6.662 decaf::net::URI Class Reference

This class represents an instance of a **URI** (p. 3152) as defined by RFC 2396.

`#include <src/main/decaf/net/URI.h>`Inheritance diagram for decaf::net::URI:

Public Member Functions

- **URI** ()

  Default Constructor, same as calling a Constructor with all fields empty.

- **URI** (const **URI** &uri)

  *Constructs a **URI** (p. 3152) as a copy of another **URI** (p. 3152).*

- **URI** (const std::string &uri)

  *Constructs a **URI** (p. 3152) from the given string.*

- **URI** (const std::string &scheme, const std::string &ssp, const std::string &fragment)

  *Constructs a **URI** (p. 3152) from the given components.*

- **URI** (const std::string &scheme, const std::string &userInfo, const std::string &host, int port, const std::string &path, const std::string &query, const std::string &fragment)

  *Constructs a **URI** (p. 3152) from the given components.*

- **URI** (const std::string &scheme, const std::string &host, const std::string &path, const std::string &fragment)

  *Constructs a **URI** (p. 3152) from the given components.*

- **URI** (const std::string &scheme, const std::string &authority, const std::string &path, const std::string &query, const std::string &fragment)

  *Constructs a **URI** (p. 3152) from the given components.*

- virtual ~**URI** ()
- virtual int **compareTo** (const **URI** &value) const

  Compares this object with the specified object for order.

- virtual bool **equals** (const **URI** &value) const
- virtual bool **operator==** (const **URI** &value) const

  Compares equality between this object and the one passed.

- virtual bool **operator<** (const **URI** &value) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- std::string **getAuthority** () const
- std::string **getFragment** () const
- std::string **getHost** () const
- std::string **getPath** () const
- int **getPort** () const

- std::string **getQuery** () const
- std::string **getScheme** () const
- std::string **getUserInfo** () const
- std::string **getRawAuthority** () const

  *Returns the raw authority component of this **URI** (p. 3152).*

- std::string **getRawFragment** () const

  *Returns the raw fragment component of this **URI** (p. 3152).*

- std::string **getRawPath** () const

  *Returns the raw path component of this **URI** (p. 3152).*

- std::string **getRawQuery** () const

  *Returns the raw query component of this **URI** (p. 3152).*

- std::string **getRawSchemeSpecificPart** () const

  *Returns the raw scheme-specific part of this **URI** (p. 3152).*

- std::string **getSchemeSpecificPart** () const

  *Returns the decoded scheme-specific part of this **URI** (p. 3152).*

- std::string **getRawUserInfo** () const

  *Returns the raw user-information component of this **URI** (p. 3152).*

- bool **isAbsolute** () const

  *Tells whether or not this **URI** (p. 3152) is absolute.*

- bool **isOpaque** () const

  *Tells whether or not this **URI** (p. 3152) is opaque.*

- **URI normalize** () const

  Normalizes this URI's path.

- **URI parseServerAuthority** () const

  Attempts to parse this URI's authority component, if defined, into user-information, host, and port components.

- **URI relativize** (const **URI** &uri) const

  *Relativizes the given **URI** (p. 3152) against this **URI** (p. 3152).*

- **URI resolve** (const std::string &str) const

  *Constructs a new **URI** (p. 3152) by parsing the given string and then resolving it against this **URI** (p. 3152).*

- **URI resolve** (const **URI** &uri) const

  *Resolves the given **URI** (p. 3152) against this **URI** (p. 3152).*

- std::string **toString** () const

  *Returns the content of this **URI** (p. 3152) as a string.*

- **URL toURL** () const

  *Constructs a **URL** (p. 3194) from this **URI** (p. 3152).*

Static Public Member Functions

- static **URI create** (const std::string uri)

  *Creates a **URI** (p. 3152) by parsing the given string.*

6.662.1 Detailed Description

This class represents an instance of a **URI** (p. 3152) as defined by RFC 2396.

6.662.2 Constructor & Destructor Documentation

6.662.2.1 decaf::net::URI::URI ()

Default Constructor, same as calling a Constructor with all fields empty.

6.662.2.2 decaf::net::URI::URI (const URI & *uri*)

Constructs a **URI** (p. 3152) as a copy of another **URI** (p. 3152).

Parameters:

uri - uri to copy

Exceptions:

URISyntaxException (p. 3182) if the **URI** (p. 3152) passed is malformed.

6.662.2.3 decaf::net::URI::URI (const std::string & *uri*)

Constructs a **URI** (p. 3152) from the given string.

Parameters:

uri - string uri to parse.

Exceptions:

URISyntaxException (p. 3182) if the **URI** (p. 3152) passed is malformed.

6.662.2.4 decaf::net::URI::URI (const std::string & *scheme*, const std::string & *ssp*, const std::string & *fragment*)

Constructs a **URI** (p. 3152) from the given components.

Parameters:

scheme - the uri scheme

ssp - Scheme specific part

fragment - Fragment

Exceptions:

URISyntaxException *(p. 3182)* if the **URI** (p. 3152) passed is malformed.

6.662.2.5 decaf::net::URI::URI (const std::string & *scheme*, const std::string & *userInfo*, const std::string & *host*, int *port*, const std::string & *path*, const std::string & *query*, const std::string & *fragment*)

Constructs a **URI** (p. 3152) from the given components.

Parameters:

scheme - Scheme name

userInfo - User name and authorization information

host - Host name

port - Port number

path - Path

query - Query

fragment - Fragment

Exceptions:

URISyntaxException *(p. 3182)* if the **URI** (p. 3152) passed is malformed.

6.662.2.6 decaf::net::URI::URI (const std::string & *scheme*, const std::string & *host*, const std::string & *path*, const std::string & *fragment*)

Constructs a **URI** (p. 3152) from the given components.

Parameters:

scheme - Scheme name

host - Host name

path - Path

fragment - Fragment

Exceptions:

URISyntaxException *(p. 3182)* if the **URI** (p. 3152) passed is malformed.

6.662.2.7 decaf::net::URI::URI (const std::string & *scheme*, const std::string & *authority*, const std::string & *path*, const std::string & *query*, const std::string & *fragment*)

Constructs a **URI** (p. 3152) from the given components.

Parameters:

scheme - Scheme name

authority - Authority

path - Path

query - Query

fragment - Fragment

Exceptions:

URISyntaxException *(p. 3182)* if the **URI** (p. 3152) passed is malformed.

6.662.2.8 virtual decaf::net::URI::~URI () [inline, virtual]

6.662.3 Member Function Documentation

6.662.3.1 virtual int decaf::net::URI::compareTo (const URI & *value*) const [virtual]

Compares this object with the specified object for order. Returns a negative integer, zero, or a positive integer as this object is less than, equal to, or greater than the specified object.

Parameters:

value - the value to compare to this one.

Returns:

zero if equal minus one if less than and one if greater than.

6.662.3.2 static URI decaf::net::URI::create (const std::string *uri*) [static]

Creates a **URI** (p. 3152) by parsing the given string. This convenience factory method works as if by invoking the URI(string) constructor; any **URISyntaxException** (p. 3182) thrown by the constructor is caught and wrapped in a new IllegalArgumentException object, which is then thrown.

Parameters:

uri - **URI** (p. 3152) string to parse

Exceptions:

IllegalArgumentException

6.662.3.3 virtual bool decaf::net::URI::equals (const URI & *value*) const [virtual]

Returns:

true if this value is considered equal to the passed value.

6.662.3.4 std::string decaf::net::URI::getAuthority () const

Returns:

the decoded authority component of this **URI** (p. 3152).

6.662.3.5 std::string decaf::net::URI::getFragment () const

Returns:

the decoded fragment component of this **URI** (p. 3152).

6.662.3.6 std::string decaf::net::URI::getHost () const

Returns:

the host component of this **URI** (p. 3152).

6.662.3.7 std::string decaf::net::URI::getPath () const

Returns:

the path component of this **URI** (p. 3152).

6.662.3.8 int decaf::net::URI::getPort () const

Returns:

the port component of this **URI** (p. 3152).

6.662.3.9 std::string decaf::net::URI::getQuery () const

Returns:

the query component of this **URI** (p. 3152).

6.662.3.10 std::string decaf::net::URI::getRawAuthority () const

Returns the raw authority component of this **URI** (p. 3152). The authority component of a **URI** (p. 3152), if defined, only contains the commercial-at character ('@') and characters in the unreserved, punct, escaped, and other categories. If the authority is server-based then it is further constrained to have valid user-information, host, and port components.

Returns:

the raw authority component of the **URI** (p. 3152)

6.662.3.11 std::string decaf::net::URI::getRawFragment () const

Returns the raw fragment component of this **URI** (p. 3152). The fragment component of a **URI** (p. 3152), if defined, only contains legal **URI** (p. 3152) characters.

Returns:

the raw fragment component of this **URI** (p. 3152)

6.662.3.12 std::string decaf::net::URI::getRawPath () const

Returns the raw path component of this **URI** (p. 3152). The path component of a **URI** (p. 3152), if defined, only contains the slash character ('/'), the commercial-at character ('@'), and characters in the unreserved, punct, escaped, and other categories.

Returns:

the raw path component of this **URI** (p. 3152)

6.662.3.13 std::string decaf::net::URI::getRawQuery () const

Returns the raw query component of this **URI** (p. 3152). The query component of a **URI** (p. 3152), if defined, only contains legal **URI** (p. 3152) characters.

Returns:

the raw query component of the **URI** (p. 3152).

6.662.3.14 std::string decaf::net::URI::getRawSchemeSpecificPart () const

Returns the raw scheme-specific part of this **URI** (p. 3152). The scheme-specific part is never undefined, though it may be empty. The scheme-specific part of a **URI** (p. 3152) only contains legal **URI** (p. 3152) characters.

Returns:

the raw scheme special part of the uri

6.662.3.15 std::string decaf::net::URI::getRawUserInfo () const

Returns the raw user-information component of this **URI** (p. 3152). The user-information component of a **URI** (p. 3152), if defined, only contains characters in the unreserved, punct, escaped, and other categories.

Returns:

the raw user-information component of the **URI** (p. 3152)

6.662.3.16 std::string decaf::net::URI::getScheme () const

Returns:

the scheme component of this **URI** (p. 3152)

6.662.3.17 std::string decaf::net::URI::getSchemeSpecificPart () const

Returns the decoded scheme-specific part of this **URI** (p. 3152). The string returned by this method is equal to that returned by the getRawSchemeSpecificPart method except that all sequences of escaped octets are decoded.

Returns:

the raw scheme specific part of the uri.

6.662.3.18 std::string decaf::net::URI::getUserInfo () const

Returns:

the user info component of this **URI** (p. 3152)

6.662.3.19 bool decaf::net::URI::isAbsolute () const

Tells whether or not this **URI** (p. 3152) is absolute. A **URI** (p. 3152) is absolute if, and only if, it has a scheme component.

Returns:

true if, and only if, this **URI** (p. 3152) is absolute

6.662.3.20 bool decaf::net::URI::isOpaque () const

Tells whether or not this **URI** (p. 3152) is opaque. A **URI** (p. 3152) is opaque if, and only if, it is absolute and its scheme-specific part does not begin with a slash character ('/'). An opaque **URI** (p. 3152) has a scheme, a scheme-specific part, and possibly a fragment; all other components are undefined.

Returns:

true if, and only if, this **URI** (p. 3152) is opaque

6.662.3.21 URI decaf::net::URI::normalize () const

Normalizes this URI's path. If this **URI** (p. 3152) is opaque, or if its path is already in normal form, then this **URI** (p. 3152) is returned. Otherwise a new **URI** (p. 3152) is constructed that is identical to this **URI** (p. 3152) except that its path is computed by normalizing this URI's path in a manner consistent with RFC 2396, section 5.2, step 6, sub-steps c through f; that is:

1. All "." segments are removed. 2. If a ".." segment is preceded by a non-".." segment then both of these segments are removed. This step is repeated until it is no longer applicable. 3. If

the path is relative, and if its first segment contains a colon character (':'), then a "." segment is prepended. This prevents a relative **URI** (p. 3152) with a path such as "a:b/c/d" from later being re-parsed as an opaque **URI** (p. 3152) with a scheme of "a" and a scheme-specific part of "b/c/d". (Deviation from RFC 2396)

A normalized path will begin with one or more ".." segments if there were insufficient non-".." segments preceding them to allow their removal. A normalized path will begin with a "." segment if one was inserted by step 3 above. Otherwise, a normalized path will not contain any "." or ".." segments.

Returns:

A **URI** (p. 3152) equivalent to this **URI** (p. 3152), but whose path is in normal form

6.662.3.22 virtual bool decaf::net::URI::operator< (const URI & *value*) const [virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.662.3.23 virtual bool decaf::net::URI::operator== (const URI & *value*) const [virtual]

Compares equality between this object and the one passed.

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.662.3.24 URI decaf::net::URI::parseServerAuthority () const

Attempts to parse this URI's authority component, if defined, into user-information, host, and port components. If this URI's authority component has already been recognized as being server-based then it will already have been parsed into user-information, host, and port components. In this case, or if this **URI** (p. 3152) has no authority component, this method simply returns this **URI** (p. 3152).

Otherwise this method attempts once more to parse the authority component into user-information, host, and port components, and throws an exception describing why the authority component could not be parsed in that way.

Returns:

A **URI** (p. 3152) whose authority field has been parsed as a server-based authority

Exceptions:

URISyntaxException *(p. 3182)* - If the authority component of this **URI** (p. 3152) is defined but cannot be parsed as a server-based authority.

6.662.3.25 URI decaf::net::URI::relativize (const URI & *uri*) const

Relativizes the given **URI** (p. 3152) against this **URI** (p. 3152). The relativization of the given **URI** (p. 3152) against this **URI** (p. 3152) is computed as follows:

1. If either this **URI** (p. 3152) or the given **URI** (p. 3152) are opaque, or if the scheme and authority components of the two URIs are not identical, or if the path of this **URI** (p. 3152) is not a prefix of the path of the given **URI** (p. 3152), then the given **URI** (p. 3152) is returned. 2. Otherwise a new relative hierarchical **URI** (p. 3152) is constructed with query and fragment components taken from the given **URI** (p. 3152) and with a path component computed by removing this URI's path from the beginning of the given URI's path.

Parameters:

uri - The **URI** (p. 3152) to be relativized against this **URI** (p. 3152)

Returns:

The resulting **URI** (p. 3152)

6.662.3.26 URI decaf::net::URI::resolve (const URI & *uri*) const

Resolves the given **URI** (p. 3152) against this **URI** (p. 3152). If the given **URI** (p. 3152) is already absolute, or if this **URI** (p. 3152) is opaque, then a copy of the given **URI** (p. 3152) is returned.

If the given URI's fragment component is defined, its path component is empty, and its scheme, authority, and query components are undefined, then a **URI** (p. 3152) with the given fragment but with all other components equal to those of this **URI** (p. 3152) is returned. This allows a **URI** (p. 3152) representing a standalone fragment reference, such as "#foo", to be usefully resolved against a base **URI** (p. 3152).

Otherwise this method constructs a new hierarchical **URI** (p. 3152) in a manner consistent with RFC 2396, section 5.2; that is:

1. A new **URI** (p. 3152) is constructed with this URI's scheme and the given URI's query and fragment components. 2. If the given **URI** (p. 3152) has an authority component then the new URI's authority and path are taken from the given **URI** (p. 3152). 3. Otherwise the new URI's authority component is copied from this **URI** (p. 3152), and its path is computed as follows:

1. If the given URI's path is absolute then the new URI's path is taken from the given **URI** (p. 3152). 2. Otherwise the given URI's path is relative, and so the new URI's path is computed by resolving the path of the given **URI** (p. 3152) against the path of this **URI** (p. 3152). This is done by concatenating all but the last segment of this URI's path, if any, with the given URI's path and then normalizing the result as if by invoking the normalize method.

The result of this method is absolute if, and only if, either this **URI** (p. 3152) is absolute or the given **URI** (p. 3152) is absolute.

Parameters:

uri - The **URI** (p. 3152) to be resolved against this **URI** (p. 3152)

Returns:

The resulting **URI** (p. 3152)

6.662.3.27 URI decaf::net::URI::resolve (const std::string & *str*) const

Constructs a new **URI** (p. 3152) by parsing the given string and then resolving it against this **URI** (p. 3152). This convenience method works as if invoking it were equivalent to evaluating the expression resolve(URI::create(str)).

Parameters:

str - The string to be parsed into a **URI** (p. 3152)

Returns:

The resulting **URI** (p. 3152)

Exceptions:

IllegalArgumentException - If the given string violates RFC 2396

6.662.3.28 std::string decaf::net::URI::toString () const

Returns the content of this **URI** (p. 3152) as a string. If this **URI** (p. 3152) was created by invoking one of the constructors in this class then a string equivalent to the original input string, or to the string computed from the originally-given components, as appropriate, is returned. Otherwise this **URI** (p. 3152) was created by normalization, resolution, or relativization, and so a string is constructed from this URI's components according to the rules specified in RFC 2396, section 5.2, step 7.

Returns:

the string form of this **URI** (p. 3152)

6.662.3.29 URL decaf::net::URI::toURL () const

Constructs a **URL** (p. 3194) from this **URI** (p. 3152). This convenience method works as if invoking it were equivalent to evaluating the expression new **URL** (p. 3194)(this.toString()) after first checking that this **URI** (p. 3152) is absolute.

Returns:

A **URL** (p. 3194) constructed from this **URI** (p. 3152)

Exceptions:

IllegalArgumentException - If this **URL** (p. 3194) is not absolute

MalformedURLException *(p. 1992)* - If a protocol handler for the **URL** (p. 3194) could not be found, or if some other error occurred while constructing the **URL** (p. 3194)

The documentation for this class was generated from the following file:

- src/main/decaf/net/**URI.h**

6.663 decaf::internal::net::URIEncoderDecoder Class Reference

`#include <src/main/decaf/internal/net/URIEncoderDecoder.h>`

Public Member Functions

- **URIEncoderDecoder** ()
- virtual ~**URIEncoderDecoder** ()

Static Public Member Functions

- static void **validate** (const std::string &s, const std::string &legal)

  Validate a string by checking if it contains any characters other than:.

- static void **validateSimple** (const std::string &s, const std::string &legal)

  Validate a string by checking if it contains any characters other than:.

- static std::string **quoteIllegal** (const std::string &s, const std::string &legal)

  All characters except letters ('a'.

- static std::string **encodeOthers** (const std::string &s)

  Other characters, which are chars that are not US-ASCII, and are not ISO Control or are not ISO Space chars are not preserved.

- static std::string **decode** (const std::string &s)

  Decodes the string argument which is assumed to be encoded in the `x-www-form-urlencoded` MIME content type using the UTF-8 encoding scheme.

6.663.1 Constructor & Destructor Documentation

6.663.1.1 decaf::internal::net::URIEncoderDecoder::URIEncoderDecoder ()

6.663.1.2 virtual decaf::internal::net::URIEncoderDecoder::~URIEncoderDecoder () `[inline, virtual]`

6.663.2 Member Function Documentation

6.663.2.1 static std::string decaf::internal::net::URIEncoderDecoder::decode (const std::string & *s*) `[static]`

Decodes the string argument which is assumed to be encoded in the `x-www-form-urlencoded` MIME content type using the UTF-8 encoding scheme. " and two following hex digit characters are converted to the equivalent byte value. All other characters are passed through unmodified.

e.g. "A%20B%20C %24%25" -> "A B C $%"

Parameters:

s - The encoded string.

Returns:

The decoded version.

6.663.2.2 static std::string decaf::internal::net::URIEncoderDecoder::encodeOthers (const std::string & *s*) [static]

Other characters, which are chars that are not US-ASCII, and are not ISO Control or are not ISO Space chars are not preserved. They are converted into their hexidecimal value prepended by ".

For example: Euro currency symbol -> "%E2%82%AC".

Parameters:

s - the string to be converted

Returns:

the converted string

6.663.2.3 static std::string decaf::internal::net::URIEncoderDecoder::quoteIllegal (const std::string & *s*, const std::string & *legal*) [static]

All characters except letters ('a'. .'z', 'A'..'Z') and numbers ('0'..'9') and legal characters are converted into their hexidecimal value prepended by ".

For example: '#' -> 23

Other characters, which are chars that are not US-ASCII, and are not ISO Control or are not ISO Space chars, are preserved.

Parameters:

s - the string to be converted

legal - the characters allowed to be preserved in the string s

Returns:

converted string

6.663.2.4 static void decaf::internal::net::URIEncoderDecoder::validate (const std::string & *s*, const std::string & *legal*) [static]

Validate a string by checking if it contains any characters other than:. 1. letters ('a'..'z', 'A'..'Z') 2. numbers ('0'..'9') 3. characters in the legalset parameter 4. characters that are not ISO Control or are not ISO Space characters)

Parameters:

s - the string to be validated

legal - the characters allowed in the string s

Exceptions:

URISyntaxException if the uri string is not well formed.

6.663.2.5 static void decaf::internal::net::URIEncoderDecoder::validateSimple (const std::string & *s*, const std::string & *legal*) [static]

Validate a string by checking if it contains any characters other than:. 1. letters ('a'..'z', 'A'..'Z') 2. numbers ('0'..'9') 3. characters in the legalset parameter

Parameters:

s - the string to be validated

legal - the characters allowed in the string s

Exceptions:

URISyntaxException if the uri string is not well formed.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/**URIEncoderDecoder.h**

6.664 decaf::internal::net::URIHelper Class Reference

Helper class used by the URI classes in encoding and decoding of URI's.

`#include <src/main/decaf/internal/net/URIHelper.h>`

Public Member Functions

- **URIHelper** (const std::string &unreserved, const std::string &punct, const std::string &reserved, const std::string &someLegal, const std::string &allLegal)

  *Setup the **URIHelper** (p. 3167) with values assigned to the various fields that are used in the validation process.*

- **URIHelper** ()

  Sets up the filter strings with sane defaults.

- virtual ~**URIHelper** ()
- **URIType parseURI** (const std::string &uri, bool forceServer)

  Parse the passed in URI.

- void **validateScheme** (const std::string &uri, const std::string &scheme, int index)

  Validate the schema portin of the URI.

- void **validateSsp** (const std::string &uri, const std::string &ssp, std::size_t index)

  Validate that the URI Ssp Segment contains no invalid encodings.

- void **validateAuthority** (const std::string &uri, const std::string &authority, std::size_t index)

  Validate that the URI Authority Segment contains no invalid encodings.

- void **validatePath** (const std::string &uri, const std::string &path, std::size_t index)

  Validate that the URI Path Segment contains no invalid encodings.

- void **validateQuery** (const std::string &uri, const std::string &query, std::size_t index)

  Validate that the URI Query Segment contains no invalid encodings.

- void **validateFragment** (const std::string &uri, const std::string &fragment, std::size_t index)

  Validate that the URI fragment contains no invalid encodings.

- **URIType parseAuthority** (bool forceServer, const std::string &authority)

  determine the host, port and user-info if the authority parses successfully to a server based authority

- void **validateUserinfo** (const std::string &uri, const std::string &userinfo, std::size_t index)

  Check the supplied user info for validity.

- bool **isValidHost** (bool forceServer, const std::string &host)

  distinguish between IPv4, IPv6, domain name and validate it based on its type

- bool **isValidDomainName** (const std::string &host)

  Validates the string past to determine if it is a well formed domain name.

- bool **isValidIPv4Address** (const std::string &host)

  Validate if the host value is a well formed IPv4 address, this is the form XXX.XXX.XXX.XXX were X is any number 0-9.

- bool **isValidIP6Address** (const std::string &ipAddress)

  Determines if the given address is valid according to the IPv6 spec.

- bool **isValidIP4Word** (const std::string &word)

  Check is the string passed contains a Valid IPv4 word, which is an integer in the range of 0 to 255.

- bool **isValidHexChar** (char c)

  Determines if the given char is a valid Hex char.

6.664.1 Detailed Description

Helper class used by the URI classes in encoding and decoding of URI's.

6.664.2 Constructor & Destructor Documentation

6.664.2.1 decaf::internal::net::URIHelper::URIHelper (const std::string & *unreserved*, const std::string & *punct*, const std::string & *reserved*, const std::string & *someLegal*, const std::string & *allLegal*)

Setup the **URIHelper** (p. 3167) with values assigned to the various fields that are used in the validation process. The defaults are overridden by these values.

Parameters:

unreserved - characters not reserved for use.

punct - allowable punctuation symbols.

reserved - characters not allowed for general use in the URI.

someLegal - characters that are legal in certain cases.

allLegal - characters that are always legal.

6.664.2.2 decaf::internal::net::URIHelper::URIHelper ()

Sets up the filter strings with sane defaults.

6.664.2.3 virtual decaf::internal::net::URIHelper::~URIHelper () [inline, virtual]

6.664.3 Member Function Documentation

6.664.3.1 bool decaf::internal::net::URIHelper::isValidDomainName (const std::string & *host*)

Validates the string past to determine if it is a well formed domain name.

Parameters:

host - domain name to validate.

Returns:

true if host is well formed.

6.664.3.2 bool decaf::internal::net::URIHelper::isValidHexChar (char *c*)

Determines if the given char is a valid Hex char. Valid chars are A-F (upper or lower case) and 0-9.

Parameters:

c - char to inspect

Returns:

true if c is a valid hex char.

6.664.3.3 bool decaf::internal::net::URIHelper::isValidHost (bool *forceServer*, const std::string & *host*)

distinguish between IPv4, IPv6, domain name and validate it based on its type

Parameters:

forceServer - true if the forceServer mode should be active.

host - Host string to validate.

Returns:

true if the host value if a valid domain name.

Exceptions:

URISyntaxException if the host is invalid and forceServer is true.

6.664.3.4 bool decaf::internal::net::URIHelper::isValidIP4Word (const std::string & *word*)

Check is the string passed contains a Valid IPv4 word, which is an integer in the range of 0 to 255.

Parameters:

word - string value to check.

Returns:

true if the word is a valid IPv4 word.

6.664.3.5 bool decaf::internal::net::URIHelper::isValidIP6Address (const std::string & *ipAddress*)

Determines if the given address is valid according to the IPv6 spec.

Parameters:

ipAddress - string ip address value to validate.

Returns:

true if the address string is valid.

6.664.3.6 bool decaf::internal::net::URIHelper::isValidIPv4Address (const std::string & *host*)

Validate if the host value is a well formed IPv4 address, this is the form XXX.XXX.XXX.XXX were X is any number 0-9. and XXX is not greater than 255.

Parameters:

host - IPv4 address string to parse.

Returns:

true if host is a well formed IPv4 address.

6.664.3.7 URIType decaf::internal::net::URIHelper::parseAuthority (bool *forceServer*, const std::string & *authority*)

determine the host, port and user-info if the authority parses successfully to a server based authority behavior in error cases: if forceServer is true, throw URISyntaxException with the proper diagnostic messages. if forceServer is false assume this is a registry based uri, and just return leaving the host, port and user-info fields undefined.

and there are some error cases where URISyntaxException is thrown regardless of the forceServer parameter e.g. mal-formed ipv6 address

Parameters:

forceServer

authority

Returns:

a **URIType** (p. 3186) instance containing the parsed data.

Exceptions:

URISyntaxException

6.664.3.8 URIType decaf::internal::net::URIHelper::parseURI (const std::string & *uri*, bool *forceServer*)

Parse the passed in URI.

Parameters:

uri - the URI to Parse

forceServer - if true invalid URI data throws an Exception

Returns:

a **URIType** (p. 3186) instance containing the parsed data.

Exceptions:

URISyntaxException if forceServer is true and the URI is invalid.

6.664.3.9 void decaf::internal::net::URIHelper::validateAuthority (const std::string & *uri*, const std::string & *authority*, std::size_t *index*)

Validate that the URI Authority Segment contains no invalid encodings.

Parameters:

uri - the full uri.

authority - the Authority to check.

index - position in the uri where Authority starts.

Exceptions:

URISyntaxException if the fragment has errors.

6.664.3.10 void decaf::internal::net::URIHelper::validateFragment (const std::string & *uri*, const std::string & *fragment*, std::size_t *index*)

Validate that the URI fragment contains no invalid encodings.

Parameters:

uri - the full uri.

fragment - the fragment to check.

index - position in the uri where fragment starts.

Exceptions:

URISyntaxException if the fragment has errors.

6.664.3.11 void decaf::internal::net::URIHelper::validatePath (const std::string & *uri*, const std::string & *path*, std::size_t *index*)

Validate that the URI Path Segment contains no invalid encodings.

Parameters:

uri - the full uri.

path - the path to check.

index - position in the uri where path starts.

Exceptions:

URISyntaxException if the fragment has errors.

6.664.3.12 void decaf::internal::net::URIHelper::validateQuery (const std::string & *uri*, const std::string & *query*, std::size_t *index*)

Validate that the URI Query Segment contains no invalid encodings.

Parameters:

uri - the full uri.

query - the query to check.

index - position in the uri where fragment starts.

Exceptions:

URISyntaxException if the fragment has errors.

6.664.3.13 void decaf::internal::net::URIHelper::validateScheme (const std::string & *uri*, const std::string & *scheme*, int *index*)

Validate the schema portin of the URI.

Parameters:

uri - the URI to check.

scheme - the schema section of the URI.

index - index in uri where schema starts.

Exceptions:

URISyntaxException if the fragment has errors.

6.664.3.14 void decaf::internal::net::URIHelper::validateSsp (const std::string & *uri*, const std::string & *ssp*, std::size_t *index*)

Validate that the URI Ssp Segment contains no invalid encodings.

Parameters:

uri - the full uri.

ssp - the SSP to check.

index - position in the uri where Ssp starts.

Exceptions:

URISyntaxException if the fragment has errors.

6.664.3.15 void decaf::internal::net::URIHelper::validateUserinfo (const std::string & *uri*, const std::string & *userinfo*, std::size_t *index*)

Check the supplied user info for validity.

Parameters:

uri - the uri to parse.

userinfo - supplied user info

index - index into the URI string where the data is located.

Returns:

true if valid

Exceptions:

URISyntaxException if an error occurs

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/**URIHelper.h**

6.665 activemq::transport::failover::URIPool Class Reference

`#include <src/main/activemq/transport/failover/URIPool.h>`

Public Member Functions

- **URIPool** ()

  Create an Empty URI Pool.

- **URIPool** (const **decaf::util::List**< **decaf::net::URI** > &uris)

  Creates a new URI Pool using the given list as the initial Free List.

- **URIPool** (const **URIPool** &uris)

  Creates a new URI Pool which will be a copy of the given URI Pool.

- **URIPool** & **operator**= (const **URIPool** &uris)

  Assignment operator, copies the contents of the given ***URIPool*** *(p. 3174) into this one.*

- ~**URIPool** ()
- const **decaf::util::List**< **decaf::net::URI** > & **getURIList** () const

  Gets a static view of the URI List contained in this URI Pool.

- bool **isEmpty** () const
- const **decaf::net::URI** & **getPriorityURI** () const

  Returns the URI that is considered to be this Pools Priority URI, this is always the first URI in the list of URIs that this pool was created with.

- void **setPriorityURI** (const **decaf::net::URI** &uri)

  Sets the URI that is considered this Pool's priority URI.

- **decaf::net::URI getURI** ()

  Fetches the next available URI from the pool, if there are no more URIs free when this method is called it throws a NoSuchElementException.

- bool **addURI** (const **decaf::net::URI** &uri)

  Adds a URI to the free list, callers that have previously taken one using the ***getURI*** *method should always return the URI when they close the resource that was connected to that URI.*

- bool **addURIs** (const **decaf::util::List**< **decaf::net::URI** > &uris)

  Adds a List of URIs to this Pool, the method checks for duplicates already in the pool and does not add those.

- bool **removeURI** (const **decaf::net::URI** &uri)

  Remove a given URI from the Free List.

- bool **isRandomize** () const

  Is the URI that is given randomly picked from the pool or is each one taken in sequence.

- void **setRandomize** (bool value)

Sets if the URI's that are taken from the pool are chosen Randomly or are taken in the order they are in the list.

- bool **contains** (const **decaf::net::URI** &uri) const

  Returns true if the given URI is contained in this set of URIs.

- bool **isPriority** (const **decaf::net::URI** &uri) const

  Returns true if the URI given is the first in the list of URIs contained in this pool.

- void **clear** ()

  Remove all URIs from the pool.

- bool **equals** (const **URIPool** &other) const

  *Compares the URIs in this set to that of another **URIPool** (p. 3174).*

6.665.1 Constructor & Destructor Documentation

6.665.1.1 activemq::transport::failover::URIPool::URIPool ()

Create an Empty URI Pool.

6.665.1.2 activemq::transport::failover::URIPool::URIPool (const decaf::util::List< decaf::net::URI > & *uris*)

Creates a new URI Pool using the given list as the initial Free List.

Parameters:

uris - List of URI to place in the Pool.

6.665.1.3 activemq::transport::failover::URIPool::URIPool (const URIPool & *uris*)

Creates a new URI Pool which will be a copy of the given URI Pool.

Parameters:

uris The **URIPool** (p. 3174) instance to copy.

6.665.1.4 activemq::transport::failover::URIPool::~URIPool ()

6.665.2 Member Function Documentation

6.665.2.1 bool activemq::transport::failover::URIPool::addURI (const decaf::net::URI & *uri*)

Adds a URI to the free list, callers that have previously taken one using the `getURI` method should always return the URI when they close the resource that was connected to that URI.

Parameters:

uri - a URI previously taken from the pool.

Returns:

true if the URI was added or false if its already in the list.

6.665.2.2 bool activemq::transport::failover::URIPool::addURIs (const decaf::util::List< decaf::net::URI > & *uris*)

Adds a List of URIs to this Pool, the method checks for duplicates already in the pool and does not add those.

Parameters:

uris - List of URIs to add into the Pool.

Returns:

true if any URI was added or false if they were already in the list.

6.665.2.3 void activemq::transport::failover::URIPool::clear ()

Remove all URIs from the pool.

6.665.2.4 bool activemq::transport::failover::URIPool::contains (const decaf::net::URI & *uri*) const

Returns true if the given URI is contained in this set of URIs.

Returns:

true if the URI is in the list.

6.665.2.5 bool activemq::transport::failover::URIPool::equals (const URIPool & *other*) const

Compares the URIs in this set to that of another **URIPool** (p. 3174).

Returns:

true if the **URIPool** (p. 3174) instance contains the same values.

6.665.2.6 const decaf::net::URI& activemq::transport::failover::URIPool::getPriorityURI () const [inline]

Returns the URI that is considered to be this Pools Priority URI, this is always the first URI in the list of URIs that this pool was created with.

6.665.2.7 decaf::net::URI activemq::transport::failover::URIPool::getURI ()

Fetches the next available URI from the pool, if there are no more URIs free when this method is called it throws a NoSuchElementException. Receiving the exception is not an indication that a URI won't be available in the future, the caller should react accordingly.

Returns:

the next free URI in the Pool.

Exceptions:

NoSuchElementException if there are none free currently.

6.665.2.8 const decaf::util::List<decaf::net::URI>& activemq::transport::failover::URIPool::getURIList () const [inline]

Gets a static view of the URI List contained in this URI Pool.

Returns:

a static reference to this Pools list of URIs.

6.665.2.9 bool activemq::transport::failover::URIPool::isEmpty () const

Returns:

true if this URI Pool is empty.

6.665.2.10 bool activemq::transport::failover::URIPool::isPriority (const decaf::net::URI & *uri*) const

Returns true if the URI given is the first in the list of URIs contained in this pool.

Returns:

true if the URI is index 0 in the URI list.

6.665.2.11 bool activemq::transport::failover::URIPool::isRandomize () const [inline]

Is the URI that is given randomly picked from the pool or is each one taken in sequence.

Returns:

true if URI gets are random.

6.665.2.12 URIPool& activemq::transport::failover::URIPool::operator= (const URIPool & *uris*)

Assignment operator, copies the contents of the given **URIPool** (p. 3174) into this one.

Parameters:

uris The **URIPool** (p. 3174) whose contents are to be copied.

6.665.2.13 bool activemq::transport::failover::URIPool::removeURI (const decaf::net::URI & *uri*)

Remove a given URI from the Free List.

Parameters:

uri The URI to find and remove from the free list

Returns:

true if the URI was removed or false if no change was made.

6.665.2.14 void activemq::transport::failover::URIPool::setPriorityURI (const decaf::net::URI & *uri*) [inline]

Sets the URI that is considered this Pool's priority URI.

Parameters:

uri The configured priority URI for this pool.

6.665.2.15 void activemq::transport::failover::URIPool::setRandomize (bool *value*) [inline]

Sets if the URI's that are taken from the pool are chosen Randomly or are taken in the order they are in the list.

Parameters:

value - true indicates URI gets are random.

The documentation for this class was generated from the following file:

- src/main/activemq/transport/failover/**URIPool.h**

6.666 activemq::util::URISupport Class Reference

`#include <src/main/activemq/util/URISupport.h>`

Static Public Member Functions

- static void **parseURL** (const std::string &**URI**, **decaf::util::Properties** &properties)

  Parses the properties out of the provided Broker URI and sets them in the passed Properties Object.

- static **CompositeData parseComposite** (const **URI** &uri)

  Parses a Composite URI into a Composite Data instance, the Composite URI takes the for scheme://(uri1,uri2,...uriN)?param1=value1, each of the composite URIs is stored in the CompositeData's internal list.

- static **decaf::util::Properties parseQuery** (std::string query)

  Parse the Query portion of a URI String and return a Simple Properties object containing the parameter names as keys, and the parameter values and values of the Properties.

- static void **parseQuery** (std::string query, **decaf::util::Properties** *properties)

  Parse the Query portion of a URI String and return a Simple Properties object containing the parameter names as keys, and the parameter values and values of the Properties.

- static std::string **createQueryString** (const **Properties** &options)

  Given a properties object create a string that can be appended to a URI as a valid Query string.

6.666.1 Member Function Documentation

6.666.1.1 static std::string activemq::util::URISupport::createQueryString (const Properties & *options*) [static]

Given a properties object create a string that can be appended to a URI as a valid Query string.

Parameters:

options Properties object containing key / value query values.

Returns:

a valid URI query string.

Exceptions:

URISyntaxException if the string in the Properties object can't be encoded into a valid URI Query string.

6.666.1.2 static CompositeData activemq::util::URISupport::parseComposite (const URI & *uri*) [static]

Parses a Composite URI into a Composite Data instance, the Composite URI takes the for scheme://(uri1,uri2,...uriN)?param1=value1, each of the composite URIs is stored in the CompositeData's internal list.

Parameters:

uri - The Composite URI to parse.

Returns:

a new **CompositeData** (p. 1037) object with the parsed data

Exceptions:

URISyntaxException if the URI is not well formed.

6.666.1.3 static void activemq::util::URISupport::parseQuery (std::string *query*, decaf::util::Properties * *properties*) [static]

Parse the Query portion of a URI String and return a Simple Properties object containing the parameter names as keys, and the parameter values and values of the Properties.

Parameters:

query - the query string to parse.

properties - object pointer to get the parsed output.

Exceptions:

IllegalArgumentException if the Query string is not well formed.

6.666.1.4 static decaf::util::Properties activemq::util::URISupport::parseQuery (std::string *query*) [static]

Parse the Query portion of a URI String and return a Simple Properties object containing the parameter names as keys, and the parameter values and values of the Properties.

Parameters:

query The query string to parse and extract the encoded properties.

Returns:

Properties object with the parsed output.

Exceptions:

IllegalArgumentException if the Query string is not well formed.

6.666.1.5 static void activemq::util::URISupport::parseURL (const std::string & *URI*, decaf::util::Properties & *properties*) [static]

Parses the properties out of the provided Broker URI and sets them in the passed Properties Object.

Parameters:

URI a Broker URI to parse

properties a Properties object to set the parsed values in

Exceptions:

IllegalArgumentException if the passed URI is invalid

The documentation for this class was generated from the following file:

- src/main/activemq/util/**URISupport.h**

6.667 decaf::net::URISyntaxException Class Reference

`#include <src/main/decaf/net/URISyntaxException.h>`Inheritance diagram for decaf::net::URISyntaxException:

Public Member Functions

- **URISyntaxException** ()
  Default Constructor.
- **URISyntaxException** (const Exception &ex)
  Conversion Constructor from some other Exception.
- **URISyntaxException** (const **URISyntaxException** &ex)
  Copy Constructor.
- **URISyntaxException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **URISyntaxException** (const std::exception *cause)
  Constructor.
- **URISyntaxException** (const char *file, const int lineNumber, const char *msg)
  Constructor - Initializes the file name and line number where this message occurred.
- **URISyntaxException** (const char *file, const int lineNumber, const std::string &input, const std::string &reason)
  Constructor - Initializes the file name and line number where this message occurred.
- **URISyntaxException** (const char *file, const int lineNumber, const std::string &input, const std::string &reason, int index)
  Constructor - Initializes the file name and line number where this message occurred.
- virtual **URISyntaxException** * **clone** () const
  Clones this exception.
- virtual ~**URISyntaxException** () throw ()
- std::string **getInput** () const
- std::string **getReason** () const
- int **getIndex** () const

6.667.1 Constructor & Destructor Documentation

6.667.1.1 decaf::net::URISyntaxException::URISyntaxException ()

Default Constructor.

6.667.1.2 decaf::net::URISyntaxException::URISyntaxException (const Exception & *ex*)

Conversion Constructor from some other Exception.

Parameters:

ex An exception that should become this type of Exception

6.667.1.3 decaf::net::URISyntaxException::URISyntaxException (const URISyntaxException & *ex*)

Copy Constructor.

Parameters:

ex An exception that should become this type of Exception

6.667.1.4 decaf::net::URISyntaxException::URISyntaxException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.667.1.5 decaf::net::URISyntaxException::URISyntaxException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.667.1.6 decaf::net::URISyntaxException::URISyntaxException (const char * *file*, const int *lineNumber*, const char * *msg*)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.667.1.7 decaf::net::URISyntaxException::URISyntaxException (const char * *file*, const int *lineNumber*, const std::string & *input*, const std::string & *reason*)

Constructor - Initializes the file name and line number where this message occurred. Sets the input string that caused the error and the reason for the error.

Parameters:

file The file name where exception occurs.

lineNumber The line number where the exception occurred.

input The **URL** (p. 3194) that caused the exception.

reason The reason for the failure.

6.667.1.8 decaf::net::URISyntaxException::URISyntaxException (const char * *file*, const int *lineNumber*, const std::string & *input*, const std::string & *reason*, int *index*)

Constructor - Initializes the file name and line number where this message occurred. Sets the input string that caused the error and the reason for the error.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

input The input **URI** (p. 3152) that caused the exception

reason The reason for the failure.

index The index in the **URI** (p. 3152) string where the error occurred.

6.667.1.9 virtual decaf::net::URISyntaxException::~URISyntaxException () throw () [virtual]

6.667.2 Member Function Documentation

6.667.2.1 virtual URISyntaxException* decaf::net::URISyntaxException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new Exception instance that is a copy of this Exception object.

Reimplemented from **decaf::lang::Exception** (p. 1447).

6.667.2.2 int decaf::net::URISyntaxException::getIndex () const [inline]

Returns:

the index in the input string where the error occured or -1

6.667.2.3 std::string decaf::net::URISyntaxException::getInput () const [inline]

Returns:

the Input string that cause this exception or ""

6.667.2.4 std::string decaf::net::URISyntaxException::getReason () const [inline]

Returns:

the Reason given for this failure, or ""

The documentation for this class was generated from the following file:

- src/main/decaf/net/**URISyntaxException.h**

6.668 decaf::internal::net::URIType Class Reference

Basic type object that holds data that composes a given URI.

`#include <src/main/decaf/internal/net/URIType.h>`

Public Member Functions

- **URIType** (const std::string &source)
- **URIType** ()
- virtual ~**URIType** ()
- std::string **getSource** () const

  Gets the source URI string that was parsed to obtain this ***URIType*** *(*p. *3186**) instance and the resulting data,.*

- void **setSource** (const std::string &source)

  Sets the source URI string that was parsed to obtain this ***URIType*** *(*p. *3186**) instance and the resulting data,.*

- std::string **getScheme** () const

  Gets the Scheme of the URI, e.g.

- void **setScheme** (const std::string &scheme)

  Sets the Scheme of the URI, e.g.

- std::string **getSchemeSpecificPart** () const

  Gets the Scheme Specific Part of the URI.

- void **setSchemeSpecificPart** (const std::string &schemeSpecificPart)

  Sets the Scheme Specific Part of the URI.

- std::string **getAuthority** () const

  Gets the Authority of the URI.

- void **setAuthority** (const std::string &authority)

  Sets the Authority of the URI.

- std::string **getUserInfo** () const

  Gets the user info part of the URI, e.g.

- void **setUserInfo** (const std::string &userinfo)

  Sets the user info part of the URI, e.g.

- std::string **getHost** () const

  Gets the Host name part of the URI.

- void **setHost** (const std::string &host)

  Sets the Host name part of the URI.

- int **getPort** () const

Gets the port part of the URI.

- void **setPort** (int port)

  Sets the port part of the URI.

- std::string **getPath** () const

  Gets the Path part of the URI.

- void **setPath** (const std::string &path)

  Sets the Path part of the URI.

- std::string **getQuery** () const

  Gets the Query part of the URI.

- void **setQuery** (const std::string &query)

  Sets the Query part of the URI.

- std::string **getFragment** () const

  Gets the Fragment part of the URI.

- void **setFragment** (const std::string &fragment)

  Sets the Fragment part of the URI.

- bool **isOpaque** () const

  Gets if the URI is Opaque.

- void **setOpaque** (bool opaque)

  Sets if the URI is Opaque.

- bool **isAbsolute** () const

  Gets if the URI is Absolute.

- void **setAbsolute** (bool absolute)

  Sets if the URI is Absolute.

- bool **isServerAuthority** () const

  Gets if the URI is a Server Authority.

- void **setServerAuthority** (bool serverAuthority)

  Sets if the URI is a Server Authority.

- bool **isValid** () const

  Gets if the URI is valid, meaning that the source has been set and parsed and all relevant data fields have been set.

- void **setValid** (bool valid)

  Sets if the URI is valid, meaning that the source has been set and parsed and all relevant data fields have been set.

6.668.1 Detailed Description

Basic type object that holds data that composes a given URI.

6.668.2 Constructor & Destructor Documentation

6.668.2.1 decaf::internal::net::URIType::URIType (const std::string & *source*) [inline]

6.668.2.2 decaf::internal::net::URIType::URIType () [inline]

6.668.2.3 virtual decaf::internal::net::URIType::~URIType () [inline, virtual]

6.668.3 Member Function Documentation

6.668.3.1 std::string decaf::internal::net::URIType::getAuthority () const [inline]

Gets the Authority of the URI.

Returns:

Authority part string.

6.668.3.2 std::string decaf::internal::net::URIType::getFragment () const [inline]

Gets the Fragment part of the URI.

Returns:

Fragment part string.

6.668.3.3 std::string decaf::internal::net::URIType::getHost () const [inline]

Gets the Host name part of the URI.

Returns:

Host name part string.

6.668.3.4 std::string decaf::internal::net::URIType::getPath () const [inline]

Gets the Path part of the URI.

Returns:

Path part string.

6.668.3.5 int decaf::internal::net::URIType::getPort () const [inline]

Gets the port part of the URI.

Returns:

port part string, -1 if not set.

6.668.3.6 std::string decaf::internal::net::URIType::getQuery () const [inline]

Gets the Query part of the URI.

Returns:

Query part string.

6.668.3.7 std::string decaf::internal::net::URIType::getScheme () const [inline]

Gets the Scheme of the URI, e.g. scheme ("http"/"ftp"/...).

Returns:

scheme part string.

6.668.3.8 std::string decaf::internal::net::URIType::getSchemeSpecificPart () const [inline]

Gets the Scheme Specific Part of the URI.

Returns:

scheme specific part string.

6.668.3.9 std::string decaf::internal::net::URIType::getSource () const [inline]

Gets the source URI string that was parsed to obtain this **URIType** (p. 3186) instance and the resulting data,.

Returns:

the source URI string

6.668.3.10 std::string decaf::internal::net::URIType::getUserInfo () const [inline]

Gets the user info part of the URI, e.g. user name, as in `http://user:passwd@host:port/`

Returns:

user info part string.

6.668.3.11 bool decaf::internal::net::URIType::isAbsolute () const [inline]

Gets if the URI is Absolute.

Returns:

true if Absolute.

6.668.3.12 bool decaf::internal::net::URIType::isOpaque () const [inline]

Gets if the URI is Opaque.

Returns:

true if opaque.

6.668.3.13 bool decaf::internal::net::URIType::isServerAuthority () const [inline]

Gets if the URI is a Server Authority.

Returns:

true if Server Authority.

6.668.3.14 bool decaf::internal::net::URIType::isValid () const [inline]

Gets if the URI is valid, meaning that the source has been set and parsed and all relevant data fields have been set.

Returns:

true if the **URIType** (p. 3186) contains valid data.

6.668.3.15 void decaf::internal::net::URIType::setAbsolute (bool *absolute*) [inline]

Sets if the URI is Absolute.

Parameters:

absolute - true if Absolute.

6.668.3.16 void decaf::internal::net::URIType::setAuthority (const std::string & *authority*) [inline]

Sets the Authority of the URI.

Parameters:

authority Authority part string.

6.668.3.17 void decaf::internal::net::URIType::setFragment (const std::string & *fragment*) [inline]

Sets the Fragment part of the URI.

Parameters:

fragment - Fragment part string.

6.668.3.18 void decaf::internal::net::URIType::setHost (const std::string & *host*) [inline]

Sets the Host name part of the URI.

Parameters:

host - Host name part string.

6.668.3.19 void decaf::internal::net::URIType::setOpaque (bool *opaque*) [inline]

Sets if the URI is Opaque.

Parameters:

opaque true if opaque.

6.668.3.20 void decaf::internal::net::URIType::setPath (const std::string & *path*) [inline]

Sets the Path part of the URI.

Parameters:

path - Path part string.

6.668.3.21 void decaf::internal::net::URIType::setPort (int *port*) [inline]

Sets the port part of the URI.

Parameters:

port - port part string, -1 if not set.

6.668.3.22 void decaf::internal::net::URIType::setQuery (const std::string & *query*) [inline]

Sets the Query part of the URI.

Parameters:

query - Query part string.

6.668.3.23 void decaf::internal::net::URIType::setScheme (const std::string & *scheme*) [inline]

Sets the Scheme of the URI, e.g. scheme ("http"/"ftp"/...).

Parameters:

scheme - scheme part string.

6.668.3.24 void decaf::internal::net::URIType::setSchemeSpecificPart (const std::string & *schemeSpecificPart*) [inline]

Sets the Scheme Specific Part of the URI.

Parameters:

schemeSpecificPart - scheme specific part string.

6.668.3.25 void decaf::internal::net::URIType::setServerAuthority (bool *serverAuthority*) [inline]

Sets if the URI is a Server Authority.

Parameters:

serverAuthority - true if Server Authority.

6.668.3.26 void decaf::internal::net::URIType::setSource (const std::string & *source*) [inline]

Sets the source URI string that was parsed to obtain this **URIType** (p. 3186) instance and the resulting data,.

Parameters:

source - the source URI string

6.668.3.27 void decaf::internal::net::URIType::setUserInfo (const std::string & *userinfo*) [inline]

Sets the user info part of the URI, e.g. user name, as in `http://user:passwd@host:port/`

Parameters:

userinfo - user info part string.

6.668.3.28 void decaf::internal::net::URIType::setValid (bool *valid*) [inline]

Sets if the URI is valid, meaning that the source has been set and parsed and all relevant data fields have been set.

Parameters:

valid - true if the **URIType** (p. 3186) contains valid data.

The documentation for this class was generated from the following file:

- src/main/decaf/internal/net/**URIType.h**

6.669 decaf::net::URL Class Reference

Class **URL** (p. 3194) represents a Uniform Resource Locator, a pointer to a "resource" on the World Wide Web.

`#include <src/main/decaf/net/URL.h>`

Public Member Functions

- **URL** ()
- **URL** (const std::string &url)
- virtual ~**URL** ()

6.669.1 Detailed Description

Class **URL** (p. 3194) represents a Uniform Resource Locator, a pointer to a "resource" on the World Wide Web. A resource can be something as simple as a file or a directory, or it can be a reference to a more complicated object, such as a query to a database or to a search engine. More information on the types of URLs and their formats can be found at:

`http://www.ksc.nasa.gov/facts/internet/url-primer.html`

In general, a **URL** (p. 3194) can be broken into several parts. The previous example of a **URL** (p. 3194) indicates that the protocol to use is http (HyperText Transfer Protocol) and that the information resides on a host machine named www.ksc.nasa.gov. The information on that host machine is named /facts/internet/url-primer.html. The exact meaning of this name on the host machine is both protocol dependent and host dependent. The information normally resides in a file, but it could be generated on the fly. This component of the **URL** (p. 3194) is called the path component.

A **URL** (p. 3194) can optionally specify a "port", which is the port number to which the TCP connection is made on the remote host machine. If the port is not specified, the default port for the protocol is used instead. For example, the default port for http is 80. An alternative port could be specified as:

`http://www.ksc.nasa.gov:80/facts/internet/url-primer.html`

The syntax of **URL** (p. 3194) is defined by RFC 2396: Uniform Resource Identifiers (**URI** (p. 3152)): Generic Syntax, amended by RFC 2732: Format for Literal IPv6 Addresses in URLs. The Literal IPv6 address format also supports scope_ids. The syntax and usage of scope_ids is described here.

A **URL** (p. 3194) may have appended to it a "fragment", also known as a "ref" or a "reference". The fragment is indicated by the sharp sign character "#" followed by more characters. For example,

`http://www.apache.org/cms/index.html#chapter1`

This fragment is not technically part of the **URL** (p. 3194). Rather, it indicates that after the specified resource is retrieved, the application is specifically interested in that part of the document that has the tag chapter1 attached to it. The meaning of a tag is resource specific.

An application can also specify a "relative URL", which contains only enough information to reach the resource relative to another **URL** (p. 3194). Relative URLs are frequently used within HTML pages. For example, if the contents of the **URL** (p. 3194):

`http://www.apache.org/cms/index.html`

contained within it the relative **URL** (p. 3194):

FAQ.html

it would be a shorthand for:

`http://www.apache.org/cms/FAQ.html`

The relative **URL** (p. 3194) need not specify all the components of a **URL** (p. 3194). If the protocol, host name, or port number is missing, the value is inherited from the fully specified **URL** (p. 3194). The file component must be specified. The optional fragment is not inherited.

The **URL** (p. 3194) class does not itself encode or decode any **URL** (p. 3194) components according to the escaping mechanism defined in RFC2396. It is the responsibility of the caller to encode any fields, which need to be escaped prior to calling **URL** (p. 3194), and also to decode any escaped fields, that are returned from **URL** (p. 3194). Furthermore, because **URL** (p. 3194) has no knowledge of **URL** (p. 3194) escaping, it does not recognise equivalence between the encoded or decoded form of the same **URL** (p. 3194). For example, the two URLs:

`http://foo.com/hello` world/ and `http://foo.com/hello%20world`

would be considered not equal to each other.

Note, the **URI** (p. 3152) class does perform escaping of its component fields in certain circumstances. The recommended way to manage the encoding and decoding of URLs is to use **URI** (p. 3152), and to convert between these two classes using toURI() and **URI.toURL()** (p. 3162).

The **URLEncoder** (p. 3197) and **URLDecoder** (p. 3196) classes can also be used, but only for HTML form encoding, which is not the same as the encoding scheme defined in RFC2396.

6.669.2 Constructor & Destructor Documentation

6.669.2.1 decaf::net::URL::URL ()

6.669.2.2 decaf::net::URL::URL (const std::string & *url*)

6.669.2.3 virtual decaf::net::URL::~URL () `[inline, virtual]`

The documentation for this class was generated from the following file:

- src/main/decaf/net/**URL.h**

6.670 decaf::net::URLDecoder Class Reference

`#include <src/main/decaf/net/URLDecoder.h>`

Public Member Functions

- virtual ~**URLDecoder** ()

Static Public Member Functions

- static std::string **decode** (const std::string &value)

  Decodes the string argument which is assumed to be encoded in the ***x-www-form-urlencoded*** *MIME content type.*

6.670.1 Constructor & Destructor Documentation

6.670.1.1 virtual decaf::net::URLDecoder::~URLDecoder () [inline, virtual]

6.670.2 Member Function Documentation

6.670.2.1 static std::string decaf::net::URLDecoder::decode (const std::string & *value*) [static]

Decodes the string argument which is assumed to be encoded in the `x-www-form-urlencoded` MIME content type. '+' will be converted to space, '' and two following hex digit characters are converted to the equivalent byte value. All other characters are passed through unmodified.

e.g. "A+B+C %24%25" -> "A B C $%"

Parameters:

value - string The encoded string.

Returns:

The decoded version as a string.

The documentation for this class was generated from the following file:

- src/main/decaf/net/**URLDecoder.h**

6.671 decaf::net::URLEncoder Class Reference

`#include <src/main/decaf/net/URLEncoder.h>`

Public Member Functions

- virtual ~**URLEncoder** ()

Static Public Member Functions

- static std::string **encode** (const std::string &value)

  This class contains a utility method for converting a string to the format required by the `application/x-www-form-urlencoded` *MIME content type.*

6.671.1 Constructor & Destructor Documentation

6.671.1.1 virtual decaf::net::URLEncoder::~URLEncoder () [inline, virtual]

6.671.2 Member Function Documentation

6.671.2.1 static std::string decaf::net::URLEncoder::encode (const std::string & *value*) [static]

This class contains a utility method for converting a string to the format required by the `application/x-www-form-urlencoded` MIME content type. All characters except letters ('a'..'z', 'A'..'Z') and numbers ('0'..'9') and characters '.', '-', '*', '_' are converted into their hexidecimal value prepended by ''.

For example: '#' -> 23

In addition, spaces are substituted by '+'

Parameters:

value - the string to be converted

Returns:

the converted string

The documentation for this class was generated from the following file:

- src/main/decaf/net/**URLEncoder.h**

6.672 activemq::util::Usage Class Reference

`#include <src/main/activemq/util/Usage.h>`Inheritance diagram for activemq::util::Usage:

Public Member Functions

- virtual ~**Usage** ()
- virtual void **waitForSpace** ()=0

  Waits forever for more space to be returned to this ***Usage*** *(p. 3198) Manager.*

- virtual void **waitForSpace** (unsigned int timeout)=0

  Waits for more space to be returned to this ***Usage*** *(p. 3198) Manager, times out when the given time span in milliseconds elapses.*

- virtual void **enqueueUsage** (unsigned long long value)=0

  Tries to increase the usage by value amount but blocks if this object is currently full.

- virtual void **increaseUsage** (unsigned long long value)=0

  Increases the usage by the value amount.

- virtual void **decreaseUsage** (unsigned long long value)=0

  Decreases the usage by the value amount.

- virtual bool **isFull** () const =0

  Returns true if this ***Usage*** *(p. 3198) instance is full, i.e.*

6.672.1 Constructor & Destructor Documentation

6.672.1.1 virtual activemq::util::Usage::~Usage () `[virtual]`

6.672.2 Member Function Documentation

6.672.2.1 virtual void activemq::util::Usage::decreaseUsage (unsigned long long *value*) `[pure virtual]`

Decreases the usage by the value amount.

Parameters:

value Amount of space to return to the pool

Implemented in **activemq::util::MemoryUsage** (p. 2056).

6.672.2.2 virtual void activemq::util::Usage::enqueueUsage (unsigned long long *value*) `[pure virtual]`

Tries to increase the usage by value amount but blocks if this object is currently full.

Parameters:

value Amount of usage in bytes to add.

Implemented in **activemq::util::MemoryUsage** (p. 2056).

6.672.2.3 virtual void activemq::util::Usage::increaseUsage (unsigned long long *value*) [pure virtual]

Increases the usage by the value amount.

Parameters:

value Amount of usage to add.

Implemented in **activemq::util::MemoryUsage** (p. 2057).

6.672.2.4 virtual bool activemq::util::Usage::isFull () const [pure virtual]

Returns true if this **Usage** (p. 3198) instance is full, i.e. **Usage** (p. 3198) >= 100%

Returns:

true if **Usage** (p. 3198) is at the Full point.

Implemented in **activemq::util::MemoryUsage** (p. 2057).

6.672.2.5 virtual void activemq::util::Usage::waitForSpace (unsigned int *timeout*) [pure virtual]

Waits for more space to be returned to this **Usage** (p. 3198) Manager, times out when the given time span in milliseconds elapses.

Parameters:

timeout The time to wait for more space.

Implemented in **activemq::util::MemoryUsage** (p. 2057).

6.672.2.6 virtual void activemq::util::Usage::waitForSpace () [pure virtual]

Waits forever for more space to be returned to this **Usage** (p. 3198) Manager.

Implemented in **activemq::util::MemoryUsage** (p. 2058).

The documentation for this class was generated from the following file:

- src/main/activemq/util/**Usage.h**

6.673 decaf::io::UTFDataFormatException Class Reference

Thrown from classes that attempt to read or write a UTF-8 encoded string and an encoding error is encountered.

`#include <src/main/decaf/io/UTFDataFormatException.h>`Inheritance diagram for decaf::io::UTFDataFormatException:

Public Member Functions

- **UTFDataFormatException** ()
  Default Constructor.
- **UTFDataFormatException** (const **lang::Exception** &ex)
  Copy Constructor.
- **UTFDataFormatException** (const **UTFDataFormatException** &ex)
  Copy Constructor.
- **UTFDataFormatException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)
  Constructor - Initializes the file name and line number where this message occurred.
- **UTFDataFormatException** (const std::exception *cause)
  Constructor.
- **UTFDataFormatException** (const char *file, const int lineNumber, const char *msg,...)
  Constructor.
- virtual **UTFDataFormatException** * **clone** () const
  Clones this exception.
- virtual ~**UTFDataFormatException** () throw ()

6.673.1 Detailed Description

Thrown from classes that attempt to read or write a UTF-8 encoded string and an encoding error is encountered.

Since:

1.0

6.673.2 Constructor & Destructor Documentation

6.673.2.1 decaf::io::UTFDataFormatException::UTFDataFormatException ()

Default Constructor.

6.673.2.2 decaf::io::UTFDataFormatException::UTFDataFormatException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.673.2.3 decaf::io::UTFDataFormatException::UTFDataFormatException (const UTFDataFormatException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.673.2.4 decaf::io::UTFDataFormatException::UTFDataFormatException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.673.2.5 decaf::io::UTFDataFormatException::UTFDataFormatException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.673.2.6 decaf::io::UTFDataFormatException::UTFDataFormatException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.673.2.7 virtual decaf::io::UTFDataFormatException::~UTFDataFormatException () throw () [virtual]

6.673.3 Member Function Documentation

6.673.3.1 virtual UTFDataFormatException* decaf::io::UTFDataFormatException::clone () const [inline, virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

A new instance of an Exception object that is a copy of this instance.

Reimplemented from **decaf::io::IOException** (p. 1775).

The documentation for this class was generated from the following file:

- src/main/decaf/io/**UTFDataFormatException.h**

6.674 decaf::util::UUID Class Reference

A class that represents an immutable universally unique identifier (**UUID** (p. 3203)).

`#include <src/main/decaf/util/UUID.h>`Inheritance diagram for decaf::util::UUID:

Public Member Functions

- **UUID** (long long mostSigBits, long long leastSigBits)

  *Constructs a new **UUID** (p. 3203) using the specified data.*

- **UUID** (const **UUID** &source)

  *Create a copy of the source **UUID** (p. 3203).*

- **UUID** & **operator**= (const **UUID** &source)

  *Copy the source **UUID** (p. 3203) and return a reference to this **UUID** (p. 3203) for chaining.*

- virtual ~**UUID** ()
- virtual int **compareTo** (const **UUID** &value) const

  *Compare the given **UUID** (p. 3203) to this one.*

- virtual bool **equals** (const **UUID** &value) const

  *Compares this **UUID** (p. 3203) to the one given, returns true if they are equal.*

- int **hashCode** () const

  *Returns a Hash Code value for this **UUID** (p. 3203).*

- virtual bool **operator**== (const **UUID** &value) const

  Compares equality between this object and the one passed.

- virtual bool **operator**< (const **UUID** &value) const

  Compares this object to another and returns true if this object is considered to be less than the one passed.

- std::string **toString** () const

  *Returns a String object representing this **UUID** (p. 3203).*

- long long **getLeastSignificantBits** () const
- long long **getMostSignificantBits** () const
- long long **node** ()

  *The node value associated with this **UUID** (p. 3203).*

- long long **timestamp** ()

  *The timestamp value associated with this **UUID** (p. 3203).*

- int **clockSequence** ()

  *The clock sequence value associated with this **UUID** (p. 3203).*

- int **variant** ()

  *The variant number associated with this **UUID** (p. 3203).*

- int **version** ()

  *The version number associated with this **UUID** (p. 3203).*

Static Public Member Functions

- static **UUID randomUUID** ()

  *Static factory to retrieve a type 4 (pseudo randomly generated) **UUID** (p. 3203).*

- static **UUID nameUUIDFromBytes** (const std::vector< char > &name)

  *Static factory to retrieve a type 3 (name based) **UUID** (p. 3203) based on the specified byte array.*

- static **UUID nameUUIDFromBytes** (const char *name, int size)

  *Static factory to retrieve a type 3 (name based) **UUID** (p. 3203) based on the specified byte array.*

- static **UUID fromString** (const std::string &name)

  *Creates a **UUID** (p. 3203) from the string standard representation as described in the **toString()** (p. 3209) method.*

6.674.1 Detailed Description

A class that represents an immutable universally unique identifier (**UUID** (p. 3203)). A **UUID** (p. 3203) represents a 128-bit value.

There exist different variants of these global identifiers. The methods of this class are for manipulating the Leach-Salz variant, although the constructors allow the creation of any variant of **UUID** (p. 3203) (described below).

The layout of a variant 2 (Leach-Salz) **UUID** (p. 3203) is as follows: The most significant long consists of the following unsigned fields:

0xFFFFFFFF00000000 time_low 0x00000000FFFF0000 time_mid 0x000000000000F000 version 0x0000000000000FFF time_hi

The least significant long consists of the following unsigned fields:

0xC000000000000000 variant 0x3FFF000000000000 clock_seq 0x0000FFFFFFFFFFFF node

The variant field contains a value which identifies the layout of the **UUID** (p. 3203). The bit layout described above is valid only for a **UUID** (p. 3203) with a variant value of 2, which indicates the Leach-Salz variant.

The version field holds a value that describes the type of this **UUID** (p. 3203). There are four different basic types of UUIDs: time-based, DCE **security** (p. 120), name-based, and randomly generated UUIDs. These types have a version value of 1, 2, 3 and 4, respectively.

For more information including algorithms used to create UUIDs, see the Internet-Draft UUIDs and GUIDs or the standards body definition at ISO/IEC 11578:1996.

6.674.2 Constructor & Destructor Documentation

6.674.2.1 decaf::util::UUID::UUID (long long *mostSigBits*, long long *leastSigBits*)

Constructs a new **UUID** (p. 3203) using the specified data. mostSigBits is used for the most significant 64 bits of the **UUID** (p. 3203) and leastSigBits becomes the least significant 64 bits of the **UUID** (p. 3203).

Parameters:

mostSigBits

leastSigBits

6.674.2.2 decaf::util::UUID::UUID (const UUID & *source*)

Create a copy of the source **UUID** (p. 3203).

Parameters:

source The **UUID** (p. 3203) whose value initializes this **UUID** (p. 3203)

6.674.2.3 virtual decaf::util::UUID::~UUID () [virtual]

6.674.3 Member Function Documentation

6.674.3.1 int decaf::util::UUID::clockSequence ()

The clock sequence value associated with this **UUID** (p. 3203). The 14 bit clock sequence value is constructed from the clock sequence field of this **UUID** (p. 3203). The clock sequence field is used to guarantee temporal uniqueness in a time-based **UUID** (p. 3203).

The clockSequence value is only meaningful in a time-based **UUID** (p. 3203), which has version type 1. If this **UUID** (p. 3203) is not a time-based **UUID** (p. 3203) then this method throws UnsupportedOperationException.

Returns:

the clockSequeunce associated with a V1 **UUID** (p. 3203)

Exceptions:

UnsupportedOperationException if this **UUID** (p. 3203) version does not support this operation.

6.674.3.2 virtual int decaf::util::UUID::compareTo (const UUID & *value*) const [virtual]

Compare the given **UUID** (p. 3203) to this one.

Parameters:

value - the **UUID** (p. 3203) to compare to

6.674.3.3 virtual bool decaf::util::UUID::equals (const UUID & *value*) const [virtual]

Compares this **UUID** (p. 3203) to the one given, returns true if they are equal.

Parameters:

value The **UUID** (p. 3203) to compare to.

Returns:

true if UUIDs are the same.

6.674.3.4 static UUID decaf::util::UUID::fromString (const std::string & *name*) [static]

Creates a **UUID** (p. 3203) from the string standard representation as described in the **toString()** (p. 3209) method.

Parameters:

name A string to be used to construct a **UUID** (p. 3203).

Returns:

type 3 **UUID** (p. 3203)

Exceptions:

IllegalArgumentException if the **UUID** (p. 3203) string given is invalid.

6.674.3.5 long long decaf::util::UUID::getLeastSignificantBits () const

Returns:

the most significant 64 bits of this UUID's 128 bit value.

6.674.3.6 long long decaf::util::UUID::getMostSignificantBits () const

Returns:

the most significant 64 bits of this UUID's 128 bit value.

6.674.3.7 int decaf::util::UUID::hashCode () const

Returns a Hash Code value for this **UUID** (p. 3203).

Returns:

a Hash Code for this **UUID** (p. 3203)

6.674.3.8 static UUID decaf::util::UUID::nameUUIDFromBytes (const char * *name*, int *size*) [static]

Static factory to retrieve a type 3 (name based) **UUID** (p. 3203) based on the specified byte array.

Parameters:

name A byte array to be used to construct a **UUID** (p. 3203).

size The size of the byte array, or number of bytes to use.

Returns:

type 3 **UUID** (p. 3203)

6.674.3.9 static UUID decaf::util::UUID::nameUUIDFromBytes (const std::vector< char > & *name*) [static]

Static factory to retrieve a type 3 (name based) **UUID** (p. 3203) based on the specified byte array.

Parameters:

name A byte array to be used to construct a **UUID** (p. 3203).

Returns:

type 3 **UUID** (p. 3203)

6.674.3.10 long long decaf::util::UUID::node ()

The node value associated with this **UUID** (p. 3203). The 48 bit node value is constructed from the node field of this **UUID** (p. 3203). This field is intended to hold the IEEE 802 address of the machine that generated this **UUID** (p. 3203) to guarantee spatial uniqueness.

The node value is only meaningful in a time-based **UUID** (p. 3203), which has version type 1. If this **UUID** (p. 3203) is not a time-based **UUID** (p. 3203) then this method throws UnsupportedOperationException.

Returns:

the node value of this **UUID** (p. 3203)

Exceptions:

UnsupportedOperationException if this **UUID** (p. 3203) version does not support this operation.

6.674.3.11 virtual bool decaf::util::UUID::operator< (const UUID & *value*) const [virtual]

Compares this object to another and returns true if this object is considered to be less than the one passed. This

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.674.3.12 UUID& decaf::util::UUID::operator= (const UUID & *source*)

Copy the source **UUID** (p. 3203) and return a reference to this **UUID** (p. 3203) for chaining.

Parameters:

source The **UUID** (p. 3203) whose value replaces the current values in this **UUID** (p. 3203)

Returns:

a reference to this **UUID** (p. 3203)

6.674.3.13 virtual bool decaf::util::UUID::operator== (const UUID & *value*) const [virtual]

Compares equality between this object and the one passed.

Parameters:

value - the value to be compared to this one.

Returns:

true if this object is equal to the one passed.

6.674.3.14 static UUID decaf::util::UUID::randomUUID () [static]

Static factory to retrieve a type 4 (pseudo randomly generated) **UUID** (p. 3203). The **UUID** (p. 3203) is generated using a cryptographically strong pseudo random number generator.

Returns:

type 4 **UUID** (p. 3203)

6.674.3.15 long long decaf::util::UUID::timestamp ()

The timestamp value associated with this **UUID** (p. 3203). The 60 bit timestamp value is constructed from the time_low, time_mid, and time_hi fields of this **UUID** (p. 3203). The resulting timestamp is measured in 100-nanosecond units since midnight, October 15, 1582 UTC.

The timestamp value is only meaningful in a time-based **UUID** (p. 3203), which has version type 1. If this **UUID** (p. 3203) is not a time-based **UUID** (p. 3203) then this method throws UnsupportedOperationException.

Returns:

the timestamp associated with a V1 **UUID** (p. 3203)

Exceptions:

UnsupportedOperationException if this **UUID** (p. 3203) version does not support this operation.

6.674.3.16 std::string decaf::util::UUID::toString () const

Returns a String object representing this **UUID** (p. 3203). The **UUID** (p. 3203) string representation is as described by this BNF :

UUID (p. 3203) = <time_low> "-" <time_mid> "-" <time_high_and_version> "-" <variant_and_sequence> "-" <node> time_low = 4*<hexOctet> time_mid = 2*<hexOctet> time_high_and_version = 2*<hexOctet> variant_and_sequence = 2*<hexOctet> node = 6*<hexOctet> hexOctet = <hexDigit><hexDigit> hexDigit = "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9" | "a" | "b" | "c" | "d" | "e" | "f" | "A" | "B" | "C" | "D" | "E" | "F"

Returns:

formatted string for this **UUID** (p. 3203)

6.674.3.17 int decaf::util::UUID::variant ()

The variant number associated with this **UUID** (p. 3203). The variant number describes the layout of the **UUID** (p. 3203). The variant number has the following meaning:

* 0 Reserved for NCS backward compatibility * 2 The Leach-Salz variant (used by this class) * 6 Reserved, Microsoft Corporation backward compatibility * 7 Reserved for future definition

Returns:

the variant associated with a V1 **UUID** (p. 3203)

Exceptions:

UnsupportedOperationException if this **UUID** (p. 3203) version does not support this operation.

6.674.3.18 int decaf::util::UUID::version ()

The version number associated with this **UUID** (p. 3203). The version number describes how this **UUID** (p. 3203) was generated. The version number has the following meaning:

* 1 Time-based **UUID** (p. 3203) * 2 DCE **security** (p. 120) **UUID** (p. 3203) * 3 Name-based **UUID** (p. 3203) * 4 Randomly generated **UUID** (p. 3203)

Returns:

the version associated with a V1 **UUID** (p. 3203)

Exceptions:

UnsupportedOperationException if this **UUID** (p. 3203) version does not support this operation.

The documentation for this class was generated from the following file:

- src/main/decaf/util/**UUID.h**

6.675 activemq::wireformat::WireFormat Class Reference

Provides a mechanism to marshal **commands** (p. 61) into and out of packets or into and out of streams, Channels and Datagrams.

`#include <src/main/activemq/wireformat/WireFormat.h>`Inheritance diagram for activemq::wireformat::WireFormat:

Public Member Functions

- virtual ~**WireFormat** ()
- virtual void **marshal** (const **Pointer**< **commands::Command** > command, const **activemq::transport::Transport** *transport, **decaf::io::DataOutputStream** *out)=0

  Stream based marshaling of a Command, this method blocks until the entire Command has been written out to the output stream.

- virtual **Pointer**< **commands::Command** > **unmarshal** (const **activemq::transport::Transport** *transport, **decaf::io::DataInputStream** *in)=0

  Stream based unmarshaling, blocks on reads on the input stream until a complete command has been read and unmarshaled into the correct form.

- virtual void **setVersion** (int version)=0

  Set the Version.

- virtual int **getVersion** () const =0

  Get the Version.

- virtual bool **hasNegotiator** () const =0

  *Returns true if this **WireFormat** (p. 3211) has a Negotiator that needs to wrap the Transport that uses it.*

- virtual bool **inReceive** () const =0

  Indicates if the WireFromat object is in the process of receiving a message.

- virtual **Pointer**< **transport::Transport** > **createNegotiator** (const **Pointer**< **transport::Transport** > transport)=0

  If the Transport Provides a Negotiator this method will create and return a new instance of the Negotiator.

6.675.1 Detailed Description

Provides a mechanism to marshal **commands** (p. 61) into and out of packets or into and out of streams, Channels and Datagrams.

6.675.2 Constructor & Destructor Documentation

6.675.2.1 virtual activemq::wireformat::WireFormat::~WireFormat () [virtual]

6.675.3 Member Function Documentation

6.675.3.1 virtual Pointer<transport::Transport> activemq::wireformat::WireFormat::createNegotiator (const Pointer< transport::Transport > *transport*) [pure virtual]

If the Transport Provides a Negotiator this method will create and return a new instance of the Negotiator.

Parameters:

transport *(p. 72)* The Transport to Wrap the Negotiator around.

Returns:

new instance of a **WireFormatNegotiator** (p. 3231) as a **Pointer<Transport>** (p. 2355).

Exceptions:

UnsupportedOperationException if the **WireFormat** (p. 3211) doesn't have a Negotiator.

Implemented in **activemq::wireformat::openwire::OpenWireFormat** (p. 2312), and **activemq::wireformat::stomp::StompWireFormat** (p. 2898).

6.675.3.2 virtual int activemq::wireformat::WireFormat::getVersion () const [pure virtual]

Get the Version.

Returns:

the version of the wire format

Implemented in **activemq::wireformat::openwire::OpenWireFormat** (p. 2314), and **activemq::wireformat::stomp::StompWireFormat** (p. 2899).

6.675.3.3 virtual bool activemq::wireformat::WireFormat::hasNegotiator () const [pure virtual]

Returns true if this **WireFormat** (p. 3211) has a Negotiator that needs to wrap the Transport that uses it.

Returns:

true if the **WireFormat** (p. 3211) provides a Negotiator.

Implemented in **activemq::wireformat::openwire::OpenWireFormat** (p. 2314), and **activemq::wireformat::stomp::StompWireFormat** (p. 2899).

6.675.3.4 virtual bool activemq::wireformat::WireFormat::inReceive () const [pure virtual]

Indicates if the WireFromat object is in the process of receiving a message. This is useful for monitoring inactivity and the **WireFormat** (p. 3211) is processing a large message which takes longer than some configured timeout to unmarshal, the inactivity monitor can query the **WireFormat** (p. 3211) instance to determine if its busy or not and not mark the connection as inactive if so.

Returns:

true if the **WireFormat** (p. 3211) object is unmarshaling a message.

Implemented in **activemq::wireformat::openwire::OpenWireFormat** (p. 2315), and **activemq::wireformat::stomp::StompWireFormat** (p. 2900).

6.675.3.5 virtual void activemq::wireformat::WireFormat::marshal (const Pointer< commands::Command > *command*, const activemq::transport::Transport * *transport*, decaf::io::DataOutputStream * *out*) [pure virtual]

Stream based marshaling of a Command, this method blocks until the entire Command has been written out to the output stream.

Parameters:

command The Command to Marshal

transport *(p. 72)* The Transport that called this method.

out The output stream to write the command to.

Exceptions:

IOException if an I/O error occurs.

Implemented in **activemq::wireformat::openwire::OpenWireFormat** (p. 2316), and **activemq::wireformat::stomp::StompWireFormat** (p. 2900).

6.675.3.6 virtual void activemq::wireformat::WireFormat::setVersion (int *version*) [pure virtual]

Set the Version.

Parameters:

version the version of the wire format

Implemented in **activemq::wireformat::openwire::OpenWireFormat** (p. 2319), and **activemq::wireformat::stomp::StompWireFormat** (p. 2901).

6.675.3.7 virtual Pointer<commands::Command> activemq::wireformat::WireFormat::unmarshal (const activemq::transport::Transport * *transport*, decaf::io::DataInputStream * *in*) [pure virtual]

Stream based unmarshaling, blocks on reads on the input stream until a complete command has been read and unmarshaled into the correct form. Returns a Pointer to the newly unmarshaled Command.

Parameters:

transport *(*p. *72)* Pointer to the **transport** (p. 72) that is making this request.

in The input stream to read the command from.

Returns:

the newly marshaled Command, caller owns the pointer

Exceptions:

IOException if an I/O error occurs.

Implemented in **activemq::wireformat::openwire::OpenWireFormat** (p. 2320), and **activemq::wireformat::stomp::StompWireFormat** (p. 2901).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/**WireFormat.h**

6.676 activemq::wireformat::WireFormatFactory Class Reference

The **WireFormatFactory** (p. 3215) is the interface that all **WireFormatFactory** (p. 3215) classes must extend.

`#include <src/main/activemq/wireformat/WireFormatFactory.h>`Inheritance diagram for activemq::wireformat::WireFormatFactory:

Public Member Functions

- virtual ~**WireFormatFactory** ()
- virtual **Pointer**< **WireFormat** > **createWireFormat** (const **decaf::util::Properties** &properties)=0

  *Creates a new **WireFormat** (p. 3211) Object passing it a set of properties from which it can obtain any optional settings.*

6.676.1 Detailed Description

The **WireFormatFactory** (p. 3215) is the interface that all **WireFormatFactory** (p. 3215) classes must extend. The Factory creates a **WireFormat** (p. 3211) Object based on the properties that are set in the passed `Properties` object.

6.676.2 Constructor & Destructor Documentation

6.676.2.1 virtual activemq::wireformat::WireFormatFactory::~WireFormatFactory () [virtual]

6.676.3 Member Function Documentation

6.676.3.1 virtual Pointer<WireFormat> activemq::wireformat::WireFormatFactory::createWireFormat (const decaf::util::Properties & *properties*) [pure virtual]

Creates a new **WireFormat** (p. 3211) Object passing it a set of properties from which it can obtain any optional settings.

Parameters:

properties The Properties for this **WireFormat** (p. 3211).

Returns:

Pointer to a new instance of a **WireFormat** (p. 3211) object.

Exceptions:

IllegalStateException if the factory has not been initialized.

Implemented in **activemq::wireformat::openwire::OpenWireFormatFactory** (p. 2322), and **activemq::wireformat::stomp::StompWireFormatFactory** (p. 2902).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/**WireFormatFactory.h**

6.677 activemq::commands::WireFormatInfo Class Reference

`#include <src/main/activemq/commands/WireFormatInfo.h>`Inheritance diagram for activemq::commands::WireFormatInfo:

Public Member Functions

- **WireFormatInfo** ()
- virtual ~**WireFormatInfo** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **DataStructure** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const

  *Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent.*

- virtual bool **isMarshalAware** () const

  Determine if the class implementing this interface is really wanting to be told about marshaling.

- virtual **decaf::lang::Pointer**< **commands::Command** > **visit** (**activemq::state::CommandVisitor** *visitor) throw (exceptions::ActiveMQException)

  Allows a Visitor to visit this command and return a response to the command based on the command type being visited.

- int **getVersion** () const

  Get the current Wireformat Version.

- void **setVersion** (int version)

  Set the current Wireformat Version.

- long long **getMaxInactivityDuration** () const

  Returns the currently configured Max Inactivity duration.

- void **setMaxInactivityDuration** (long long maxInactivityDuration)

  Sets the Max inactivity duration value.

- long long **getMaxInactivityDurationInitalDelay** () const

  Returns the currently configured Max Inactivity Intial Delay duration.

- void **setMaxInactivityDurationInitalDelay** (long long maxInactivityDurationInitalDelay)

  Sets the Max inactivity initial delay duration value.

- bool **isStackTraceEnabled** () const

  Checks if the stackTraceEnabled flag is on.

- void **setStackTraceEnabled** (bool stackTraceEnabled)

  Sets if the stackTraceEnabled flag is on.

- bool **isTcpNoDelayEnabled** () const

  Checks if the tcpNoDelayEnabled flag is on.

- void **setTcpNoDelayEnabled** (bool tcpNoDelayEnabled)

  Sets if the tcpNoDelayEnabled flag is on.

- bool **isCacheEnabled** () const

  Checks if the cacheEnabled flag is on.

- void **setCacheEnabled** (bool cacheEnabled)

  Sets if the cacheEnabled flag is on.

- int **getCacheSize** () const

  Gets the Cache Size setting.

- void **setCacheSize** (int value)

  Sets the Cache Size setting.

- bool **isTightEncodingEnabled** () const

  Checks if the tightEncodingEnabled flag is on.

- void **setTightEncodingEnabled** (bool tightEncodingEnabled)

  Sets if the tightEncodingEnabled flag is on.

- bool **isSizePrefixDisabled** () const

  Checks if the sizePrefixDisabled flag is on.

- void **setSizePrefixDisabled** (bool sizePrefixDisabled)

  Sets if the sizePrefixDisabled flag is on.

- const std::vector< unsigned char > & **getMagic** () const

  Get the Magic field.

- void **setMagic** (const std::vector< unsigned char > &magic)

  Sets the value of the magic field.

- const std::vector< unsigned char > & **getMarshalledProperties** () const

  Get the marshalledProperties field.

- void **setMarshalledProperties** (const std::vector< unsigned char > &marshalledProperties)

  Sets the value of the marshalledProperties field.

- virtual const **util::PrimitiveMap** & **getProperties** () const

  Gets the Properties for this ***Command*** *(*p. *1013**).*

- virtual **util::PrimitiveMap** & **getProperties** ()

  Gets the Properties for this ***Command*** *(*p. *1013**).*

- virtual void **setProperties** (const **util::PrimitiveMap** &map)

  Sets the Properties for this ***Command*** *(*p. *1013**).*

- bool **isValid** () const

  Determines if we think this is a Valid ***WireFormatInfo*** *(*p. *3217**) command.*

- virtual bool **isWireFormatInfo** () const
- virtual void **beforeMarshal** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED)
- virtual void **afterUnmarshal** (**wireformat::WireFormat** *wireFormat AMQCPP_UNUSED)

Static Public Attributes

- static const unsigned char **ID_WIREFORMATINFO** = 1

6.677.1 Constructor & Destructor Documentation

6.677.1.1 activemq::commands::WireFormatInfo::WireFormatInfo ()

6.677.1.2 virtual activemq::commands::WireFormatInfo::~WireFormatInfo () [virtual]

6.677.2 Member Function Documentation

6.677.2.1 virtual void activemq::commands::WireFormatInfo::afterUnmarshal (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*) [virtual]

Reimplemented from **activemq::commands::BaseDataStructure** (p. 663).

6.677.2.2 virtual void activemq::commands::WireFormatInfo::beforeMarshal (wireformat::WireFormat *wireFormat *AMQCPP_UNUSED*) [virtual]

Reimplemented from **activemq::commands::BaseDataStructure** (p. 664).

6.677.2.3 virtual DataStructure* activemq::commands::WireFormatInfo::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Implements **activemq::commands::DataStructure** (p. 1293).

6.677.2.4 virtual void activemq::commands::WireFormatInfo::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::BaseCommand** (p. 629).

6.677.2.5 virtual bool activemq::commands::WireFormatInfo::equals (const DataStructure * *value*) const [virtual]

Compares the **DataStructure** (p. 1293) passed in to this one, and returns if they are equivalent. Equivalent here means that they are of the same type, and that each element of the objects are the same.

Returns:

true if DataStructure's are Equal.

Reimplemented from **activemq::commands::BaseCommand** (p. 630).

6.677.2.6 int activemq::commands::WireFormatInfo::getCacheSize () const

Gets the Cache Size setting.

Returns:

currently set cache size.

6.677.2.7 virtual unsigned char activemq::commands::WireFormatInfo::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Implements **activemq::commands::DataStructure** (p. 1295).

6.677.2.8 const std::vector<unsigned char>& activemq::commands::WireFormatInfo::getMagic () const [inline]

Get the Magic field.

Returns:

const reference to a std::vector<char>

6.677.2.9 const std::vector<unsigned char>& activemq::commands::WireFormatInfo::getMarshalledProperties () const [inline]

Get the marshalledProperties field.

Returns:

const reference to a std::vector<char>

6.677.2.10 long long activemq::commands::WireFormatInfo::getMaxInactivityDuration () const

Returns the currently configured Max Inactivity duration.

Returns:

the set inactivity duration value.

6.677.2.11 long long activemq::commands::WireFormatInfo::getMaxInactivityDurationInitalDelay () const

Returns the currently configured Max Inactivity Intial Delay duration.

Returns:

the set inactivity duration initial delay value.

6.677.2.12 virtual util::PrimitiveMap& activemq::commands::WireFormatInfo::getProperties () [inline, virtual]

Gets the Properties for this **Command** (p. 1013).

Returns:

the Properties object for this **Command** (p. 1013).

6.677.2.13 virtual const util::PrimitiveMap& activemq::commands::WireFormatInfo::getProperties () const [inline, virtual]

Gets the Properties for this **Command** (p. 1013).

Returns:

the Properties object for this **Command** (p. 1013).

6.677.2.14 int activemq::commands::WireFormatInfo::getVersion () const [inline]

Get the current Wireformat Version.

Returns:

int that identifies the version

6.677.2.15 bool activemq::commands::WireFormatInfo::isCacheEnabled () const

Checks if the cacheEnabled flag is on.

Returns:

true if the flag is on.

6.677.2.16 virtual bool activemq::commands::WireFormatInfo::isMarshalAware () const [inline, virtual]

Determine if the class implementing this interface is really wanting to be told about marshaling. Normally if you didn't want to be marshal aware you just wouldn't implement this interface but since this is C++ and we don't have true interfaces we need a flat inheritance hierarchy, so we always implement this.

Returns:

true if this class cares about marshaling.

Reimplemented from **activemq::commands::BaseDataStructure** (p. 664).

6.677.2.17 bool activemq::commands::WireFormatInfo::isSizePrefixDisabled () const

Checks if the sizePrefixDisabled flag is on.

Returns:

true if the flag is on.

6.677.2.18 bool activemq::commands::WireFormatInfo::isStackTraceEnabled () const

Checks if the stackTraceEnabled flag is on.

Returns:

true if the flag is on.

6.677.2.19 bool activemq::commands::WireFormatInfo::isTcpNoDelayEnabled () const

Checks if the tcpNoDelayEnabled flag is on.

Returns:

true if the flag is on.

6.677.2.20 bool activemq::commands::WireFormatInfo::isTightEncodingEnabled () const

Checks if the tightEncodingEnabled flag is on.

Returns:

true if the flag is on.

6.677.2.21 bool activemq::commands::WireFormatInfo::isValid () const

Determines if we think this is a Valid **WireFormatInfo** (p. 3217) command.

Returns:

true if its valid.

6.677.2.22 virtual bool activemq::commands::WireFormatInfo::isWireFormatInfo () const [inline, virtual]

Returns:

answers true to the isWireFormatInfo query

Reimplemented from **activemq::commands::BaseCommand** (p. 634).

6.677.2.23 void activemq::commands::WireFormatInfo::setCacheEnabled (bool *cacheEnabled*)

Sets if the cacheEnabled flag is on.

Parameters:

cacheEnabled - true to turn flag is on

6.677.2.24 void activemq::commands::WireFormatInfo::setCacheSize (int *value*)

Sets the Cache Size setting.

Parameters:

value - value to set to the cache size.

6.677.2.25 void activemq::commands::WireFormatInfo::setMagic (const std::vector< unsigned char > & *magic*) [inline]

Sets the value of the magic field.

Parameters:

magic - const std::vector<char>

6.677.2.26 void activemq::commands::WireFormatInfo::setMarshalledProperties (const std::vector< unsigned char > & *marshalledProperties*) [inline]

Sets the value of the marshalledProperties field.

Parameters:

marshalledProperties The Byte Array vector that contains the marshaled form of the **Message** (p. 2059) properties, this is the data sent over the wire.

6.677.2.27 void activemq::commands::WireFormatInfo::setMaxInactivityDuration (long long *maxInactivityDuration*)

Sets the Max inactivity duration value.

Parameters:

maxInactivityDuration - max time a client can be inactive.

6.677.2.28 void activemq::commands::WireFormatInfo::setMaxInactivityDurationInitalDelay (long long *maxInactivityDurationInitalDelay*)

Sets the Max inactivity initial delay duration value.

Parameters:

maxInactivityDurationInitalDelay - time before the inactivity delay is checked.

6.677.2.29 virtual void activemq::commands::WireFormatInfo::setProperties (const util::PrimitiveMap & *map*) [inline, virtual]

Sets the Properties for this **Command** (p. 1013).

Parameters:

map - PrimtiveMap to copy

6.677.2.30 void activemq::commands::WireFormatInfo::setSizePrefixDisabled (bool *sizePrefixDisabled*)

Sets if the sizePrefixDisabled flag is on.

Parameters:

sizePrefixDisabled - true to turn flag is on

6.677.2.31 void activemq::commands::WireFormatInfo::setStackTraceEnabled (bool *stackTraceEnabled*)

Sets if the stackTraceEnabled flag is on.

Parameters:

stackTraceEnabled - ture to turn flag is on

6.677.2.32 void activemq::commands::WireFormatInfo::setTcpNoDelayEnabled (bool *tcpNoDelayEnabled*)

Sets if the tcpNoDelayEnabled flag is on.

Parameters:

tcpNoDelayEnabled - ture to turn flag is on

6.677.2.33 void activemq::commands::WireFormatInfo::setTightEncodingEnabled (bool *tightEncodingEnabled*)

Sets if the tightEncodingEnabled flag is on.

Parameters:

tightEncodingEnabled - true to turn flag is on

6.677.2.34 void activemq::commands::WireFormatInfo::setVersion (int *version*) [inline]

Set the current Wireformat Version.

Parameters:

version - int that identifies the version

6.677.2.35 virtual std::string activemq::commands::WireFormatInfo::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::BaseCommand** (p. 635).

6.677.2.36 virtual decaf::lang::Pointer<commands::Command> activemq::commands::WireFormatInfo::visit (activemq::state::CommandVisitor * *visitor*) throw (exceptions::ActiveMQException) [virtual]

Allows a Visitor to visit this command and return a response to the command based on the command type being visited. The command will call the proper processXXX method in the visitor.

Returns:

a **Response** (p. 2591) to the visitor being called or NULL if no response.

Implements **activemq::commands::Command** (p. 1018).

6.677.3 Field Documentation

6.677.3.1 const unsigned char activemq::commands::WireFormatInfo::ID_WIREFORMATINFO = 1 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**WireFormatInfo.h**

6.678 activemq::wireformat::openwire::marshal::generated::WireFormatI Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **WireFormatInfoMarshaller** (p. 3227).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/WireFormatInfoMarshaller.h>`Inh
diagram for activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller:

Public Member Functions

- **WireFormatInfoMarshaller** ()
- virtual ~**WireFormatInfoMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.678.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **WireFormatInfoMarshaller** (p. 3227). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.678.2 Constructor & Destructor Documentation

6.678.2.1 activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller::WireFor
() [inline]

6.678.2.2 virtual activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller::~WireFo
() [inline, virtual]

6.678.3 Member Function Documentation

6.678.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller::createObje
() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.678.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller::getDataStr
() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.678.3.3 virtual void activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller::looseMarsh
(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1284).

6.678.3.4 virtual void activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller::looseUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1286).

6.678.3.5 virtual int activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1287).

6.678.3.6 virtual void activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller::tightMarsh (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1289).

6.678.3.7 virtual void activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller::tightUnma (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1290).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**WireFormatInfoMarshaller.h**

6.679 activemq::wireformat::WireFormatNegotiator Class Reference

Defines a **WireFormatNegotiator** (p. 3231) which allows a **WireFormat** (p. 3211) to.

`#include <src/main/activemq/wireformat/WireFormatNegotiator.h>`Inheritance diagram for activemq::wireformat::WireFormatNegotiator:

Public Member Functions

- **WireFormatNegotiator** (const **Pointer**< **transport::Transport** > **next**)
  *Creates a new instance of a **WireFormat** (p. 3211) Negotiator wrapping the Transport passed.*
- virtual ~**WireFormatNegotiator** ()

6.679.1 Detailed Description

Defines a **WireFormatNegotiator** (p. 3231) which allows a **WireFormat** (p. 3211) to.

6.679.2 Constructor & Destructor Documentation

6.679.2.1 activemq::wireformat::WireFormatNegotiator::WireFormatNegotiator (const Pointer< transport::Transport > *next*) [inline]

Creates a new instance of a **WireFormat** (p. 3211) Negotiator wrapping the Transport passed.

Parameters:

next The next Transport in the chain

6.679.2.2 virtual activemq::wireformat::WireFormatNegotiator::~WireFormatNegotiator () [virtual]

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/**WireFormatNegotiator.h**

6.680 activemq::wireformat::WireFormatRegistry Class Reference

Registry of all **WireFormat** (p. 3211) Factories that are available to the client at runtime.

`#include <src/main/activemq/wireformat/WireFormatRegistry.h>`

Public Member Functions

- virtual ~**WireFormatRegistry** ()
- **WireFormatFactory** * **findFactory** (const std::string &name) const

  *Gets a Registered **WireFormatFactory** (p. 3215) from the Registry and returns it if there is not a registered format factory with the given name an exception is thrown.*

- void **registerFactory** (const std::string &name, **WireFormatFactory** *factory)

  *Registers a new **WireFormatFactory** (p. 3215) with this Registry.*

- void **unregisterFactory** (const std::string &name)

  Unregisters the Factory with the given name and deletes that instance of the Factory.

- void **unregisterAllFactories** ()

  Removes all Factories and deletes the instances of the Factory objects.

- std::vector< std::string > **getWireFormatNames** () const

  Retrieves a list of the names of all the Registered WireFormat's in this Registry.

Static Public Member Functions

- static **WireFormatRegistry** & **getInstance** ()

  *Gets the single instance of the **WireFormatRegistry** (p. 3232).*

Friends

- class **activemq::library::ActiveMQCPP**

6.680.1 Detailed Description

Registry of all **WireFormat** (p. 3211) Factories that are available to the client at runtime. New WireFormat's must have a factory registered here before a connection attempt is made.

Since:

3.0

6.680.2 Constructor & Destructor Documentation

6.680.2.1 virtual activemq::wireformat::WireFormatRegistry::~WireFormatRegistry () [virtual]

6.680.3 Member Function Documentation

6.680.3.1 WireFormatFactory* activemq::wireformat::WireFormatRegistry::findFactory (const std::string & *name*) const

Gets a Registered **WireFormatFactory** (p. 3215) from the Registry and returns it if there is not a registered format factory with the given name an exception is thrown.

Parameters:

name The name of the Factory to find in the Registry.

Returns:

the Factory registered under the given name.

Exceptions:

NoSuchElementException if no factory is registered with that name.

6.680.3.2 static WireFormatRegistry& activemq::wireformat::WireFormatRegistry::getInstance () [static]

Gets the single instance of the **WireFormatRegistry** (p. 3232).

Returns:

reference to the single instance of this Registry

6.680.3.3 std::vector<std::string> activemq::wireformat::WireFormatRegistry::getWireFormatNames () const

Retrieves a list of the names of all the Registered WireFormat's in this Registry.

Returns:

stl vector of strings with all the **WireFormat** (p. 3211) names registered.

6.680.3.4 void activemq::wireformat::WireFormatRegistry::registerFactory (const std::string & *name*, WireFormatFactory * *factory*)

Registers a new **WireFormatFactory** (p. 3215) with this Registry. If a Factory with the given name is already registered it is overwritten with the new one. Once a factory is added to the Registry its lifetime is controlled by the Registry, it will be deleted once the Registry has been deleted.

Parameters:

name The name of the new Factory to register.

factory The new Factory to add to the Registry.

Exceptions:

IllegalArgumentException is name is the empty string.

NullPointerException if the Factory is Null.

6.680.3.5 void activemq::wireformat::WireFormatRegistry::unregisterAllFactories ()

Removes all Factories and deletes the instances of the Factory objects.

6.680.3.6 void activemq::wireformat::WireFormatRegistry::unregisterFactory (const std::string & *name*)

Unregisters the Factory with the given name and deletes that instance of the Factory.

Parameters:

name Name of the Factory to unregister and destroy

6.680.4 Friends And Related Function Documentation

6.680.4.1 friend class activemq::library::ActiveMQCPP [friend]

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/**WireFormatRegistry.h**

6.681 activemq::transport::inactivity::WriteChecker Class Reference

Runnable class used by the {.

`#include <src/main/activemq/transport/inactivity/WriteChecker.h>`Inheritance diagram for activemq::transport::inactivity::WriteChecker:

Public Member Functions

- **WriteChecker** (**InactivityMonitor** *parent)
- virtual ~**WriteChecker** ()
- virtual void **run** ()

  Run method - called by the Thread class in the context of the thread.

6.681.1 Detailed Description

Runnable class used by the {.

See also:

InactivityMonitor (p. 1653)} to make periodic writes to the underlying **transport** (p. 72) if no other write activity is going on in order to more quickly detect failures of the connection to the broker.

Since:

3.1.0

6.681.2 Constructor & Destructor Documentation

6.681.2.1 activemq::transport::inactivity::WriteChecker::WriteChecker (InactivityMonitor * *parent*)

6.681.2.2 virtual activemq::transport::inactivity::WriteChecker::~WriteChecker () [virtual]

6.681.3 Member Function Documentation

6.681.3.1 virtual void activemq::transport::inactivity::WriteChecker::run () [virtual]

Run method - called by the Thread class in the context of the thread.

Implements **decaf::lang::Runnable** (p. 2607).

The documentation for this class was generated from the following file:

- src/main/activemq/transport/inactivity/**WriteChecker.h**

6.682 decaf::io::Writer Class Reference

`#include <src/main/decaf/io/Writer.h>`Inheritance diagram for decaf::io::Writer:

Public Member Functions

- **Writer** ()
- virtual ~**Writer** ()
- virtual void **write** (char v)

  Writes an single byte char value.

- virtual void **write** (const std::vector< char > &buffer)

  Writes an array of Chars.

- virtual void **write** (const char *buffer, int size)

  Writes a byte array to the output stream.

- virtual void **write** (const char *buffer, int size, int offset, int length)

  Writes a byte array to the output stream.

- virtual void **write** (const std::string &str)

  Writes a string.

- virtual void **write** (const std::string &str, int offset, int length)

  Writes a string.

- virtual **decaf::lang::Appendable** & **append** (char value)

  Appends the specified character to this Appendable.

- virtual **decaf::lang::Appendable** & **append** (const **decaf::lang::CharSequence** *csq)

  Appends the specified character sequence to this Appendable.

- virtual **decaf::lang::Appendable** & **append** (const **decaf::lang::CharSequence** *csq, int start, int end)

  Appends a subsequence of the specified character sequence to this Appendable.

Protected Member Functions

- virtual void **doWriteArrayBounded** (const char *buffer, int size, int offset, int length)=0

  Override this method to customize the functionality of the method write(char buffer, int size, int offset, int length).*

- virtual void **doWriteChar** (char v)
- virtual void **doWriteVector** (const std::vector< char > &buffer)
- virtual void **doWriteArray** (const char *buffer, int size)
- virtual void **doWriteString** (const std::string &str)

- virtual void **doWriteStringBounded** (const std::string &str, int offset, int length)
- virtual **decaf::lang::Appendable** & **doAppendChar** (char value)
- virtual **decaf::lang::Appendable** & **doAppendCharSequence** (const **decaf::lang::CharSequence** *csq)
- virtual **decaf::lang::Appendable** & **doAppendCharSequenceStartEnd** (const **decaf::lang::CharSequence** *csq, int start, int end)

6.682.1 Constructor & Destructor Documentation

6.682.1.1 decaf::io::Writer::Writer ()

6.682.1.2 virtual decaf::io::Writer::~Writer () [virtual]

6.682.2 Member Function Documentation

6.682.2.1 virtual decaf::lang::Appendable& decaf::io::Writer::append (const decaf::lang::CharSequence * *csq*, int *start*, int *end*) [virtual]

Appends a subsequence of the specified character sequence to this Appendable.

Parameters:

csq - The character sequence from which a subsequence will be appended. If csq is NULL, then characters will be appended as if csq contained the string "null".

start The index of the first character in the subsequence.

end The index of the character following the last character in the subsequence.

Returns:

a Reference to this Appendable

Exceptions:

Exception if an error occurs.

IndexOutOfBoundsException start is greater than end, or end is greater than csq.length()

Implements **decaf::lang::Appendable** (p. 574).

6.682.2.2 virtual decaf::lang::Appendable& decaf::io::Writer::append (const decaf::lang::CharSequence * *csq*) [virtual]

Appends the specified character sequence to this Appendable.

Parameters:

csq The character sequence from which a subsequence will be appended. If csq is NULL, then characters will be appended as if csq contained the string "null".

Returns:

a Reference to this Appendable.

Exceptions:

Exception if an error occurs.

Implements **decaf::lang::Appendable** (p. 575).

6.682.2.3 virtual decaf::lang::Appendable& decaf::io::Writer::append (char *value*) [virtual]

Appends the specified character to this Appendable.

Parameters:

value The character to append.

Returns:

a Reference to this Appendable

Exceptions:

Exception if an error occurs.

Implements **decaf::lang::Appendable** (p. 575).

6.682.2.4 virtual decaf::lang::Appendable& decaf::io::Writer::doAppendChar (char *value*) [protected, virtual]

6.682.2.5 virtual decaf::lang::Appendable& decaf::io::Writer::doAppendCharSequence (const decaf::lang::CharSequence * *csq*) [protected, virtual]

6.682.2.6 virtual decaf::lang::Appendable& decaf::io::Writer::doAppendCharSequenceStartEnd (const decaf::lang::CharSequence * *csq*, int *start*, int *end*) [protected, virtual]

6.682.2.7 virtual void decaf::io::Writer::doWriteArray (const char * *buffer*, int *size*) [protected, virtual]

6.682.2.8 virtual void decaf::io::Writer::doWriteArrayBounded (const char * *buffer*, int *size*, int *offset*, int *length*) [protected, pure virtual]

Override this method to customize the functionality of the method write(char* buffer, int size, int offset, int length). All subclasses must override this method to provide the basic **Writer** (p. 3236) functionality.

Implemented in **decaf::io::OutputStreamWriter** (p. 2341).

6.682.2.9 virtual void decaf::io::Writer::doWriteChar (char *v*) [protected, virtual]

6.682.2.10 virtual void decaf::io::Writer::doWriteString (const std::string & *str*) [protected, virtual]

6.682.2.11 virtual void decaf::io::Writer::doWriteStringBounded (const std::string & *str*, int *offset*, int *length*) [protected, virtual]

6.682.2.12 virtual void decaf::io::Writer::doWriteVector (const std::vector< char > & *buffer*) [protected, virtual]

6.682.2.13 virtual void decaf::io::Writer::write (const std::string & *str*, int *offset*, int *length*) [virtual]

Writes a string.

Parameters:

str The string to be written.

offset The position in the array to start writing from.

length The number of bytes in the array to write.

Exceptions:

IOException *(*p. *1774)* thrown if an error occurs.

IndexOutOfBoundsException if offset+length is greater than the string length.

6.682.2.14 virtual void decaf::io::Writer::write (const std::string & *str*) [virtual]

Writes a string.

Parameters:

str The string to be written.

Exceptions:

IOException *(*p. *1774)* thrown if an error occurs.

6.682.2.15 virtual void decaf::io::Writer::write (const char * *buffer*, int *size*, int *offset*, int *length*) [virtual]

Writes a byte array to the output stream.

Parameters:

buffer The byte array to write (cannot be NULL).

size The size in bytes of the buffer passed.

offset The position in the array to start writing from.

length The number of bytes in the array to write.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

NullPointerException if buffer is NULL.

IndexOutOfBoundsException if offset + length > size of the buffer.

6.682.2.16 virtual void decaf::io::Writer::write (const char * *buffer*, int *size*) [virtual]

Writes a byte array to the output stream.

Parameters:

buffer The byte array to write (cannot be NULL).

size The size in bytes of the buffer passed.

Exceptions:

IOException *(p. 1774)* if an I/O error occurs.

NullPointerException if buffer is NULL.

6.682.2.17 virtual void decaf::io::Writer::write (const std::vector< char > & *buffer*) [virtual]

Writes an array of Chars.

Parameters:

buffer The array to be written.

Exceptions:

IOException *(p. 1774)* thrown if an error occurs.

6.682.2.18 virtual void decaf::io::Writer::write (char *v*) [virtual]

Writes an single byte char value.

Parameters:

v The value to be written.

Exceptions:

IOException *(p. 1774)* thrown if an error occurs.

The documentation for this class was generated from the following file:

- src/main/decaf/io/**Writer.h**

6.683 decaf::security::auth::x500::X500Principal Class Reference

`#include <src/main/decaf/security/auth/x500/X500Principal.h>`Inheritance diagram for decaf::security::auth::x500::X500Principal:

Public Member Functions

- virtual ~**X500Principal** ()
- virtual std::string **getName** () const =0

  Provides the name of this principal.

- virtual void **getEncoded** (std::vector< unsigned char > &output) const =0
- virtual int **hashCode** () const =0

6.683.1 Constructor & Destructor Documentation

6.683.1.1 virtual decaf::security::auth::x500::X500Principal::~X500Principal () [virtual]

6.683.2 Member Function Documentation

6.683.2.1 virtual void decaf::security::auth::x500::X500Principal::getEncoded (std::vector< unsigned char > & *output*) const [pure virtual]

6.683.2.2 virtual std::string decaf::security::auth::x500::X500Principal::getName () const [pure virtual]

Provides the name of this principal.

Returns:

the name of this principal.

Implements **decaf::security::Principal** (p. 2428).

6.683.2.3 virtual int decaf::security::auth::x500::X500Principal::hashCode () const [pure virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/security/auth/x500/**X500Principal.h**

6.684 decaf::security::cert::X509Certificate Class Reference

Base interface for all identity certificates.

`#include <src/main/decaf/security/cert/X509Certificate.h>`Inheritance diagram for decaf::security::cert::X509Certificate:

Public Member Functions

- virtual ~**X509Certificate** ()
- virtual void **checkValidity** () const =0
- virtual void **checkValidity** (const **decaf::util::Date** &date) const =0
- virtual int **getBasicConstraints** () const =0
- virtual void **getIssuerUniqueID** (std::vector< bool > &output) const =0
- virtual const auth::X500Principal * **getIssuerX500Principal** () const =0
- virtual void **getKeyUsage** (std::vector< unsigned char > &output) const =0
- virtual **decaf::util::Date getNotAfter** () const =0
- virtual **decaf::util::Date getNotBefore** () const =0
- virtual std::string **getSigAlgName** () const =0
- virtual std::string **getSigAlgOID** () const =0
- virtual void **getSigAlgParams** (std::vector< unsigned char > &output) const =0
- virtual void **getSignature** (std::vector< unsigned char > &output) const =0
- virtual void **getSubjectUniqueID** (std::vector< bool > &output) const =0
- virtual const auth::X500Principal * **getSubjectX500Principal** () const =0
- virtual void **getTBSCertificate** (std::vector< unsigned char > &output) const =0
- virtual int **getVersion** () const =0

6.684.1 Detailed Description

Base interface for all identity certificates.

6.684.2 Constructor & Destructor Documentation

6.684.2.1 virtual decaf::security::cert::X509Certificate::~X509Certificate () [inline, virtual]

6.684.3 Member Function Documentation

6.684.3.1 virtual void decaf::security::cert::X509Certificate::checkValidity (const decaf::util::Date & *date*) const [pure virtual]

6.684.3.2 virtual void decaf::security::cert::X509Certificate::checkValidity () const [pure virtual]

6.684.3.3 virtual int decaf::security::cert::X509Certificate::getBasicConstraints () const [pure virtual]

6.684.3.4 virtual void decaf::security::cert::X509Certificate::getIssuerUniqueID (std::vector< bool > & *output*) const [pure virtual]

6.684.3.5 virtual const auth::X500Principal* decaf::security::cert::X509Certificate::getIssuerX500Principal () const [pure virtual]

6.684.3.6 virtual void decaf::security::cert::X509Certificate::getKeyUsage (std::vector< unsigned char > & *output*) const [pure virtual]

6.684.3.7 virtual decaf::util::Date decaf::security::cert::X509Certificate::getNotAfter () const [pure virtual]

6.684.3.8 virtual decaf::util::Date decaf::security::cert::X509Certificate::getNotBefore () const [pure virtual]

6.684.3.9 virtual std::string decaf::security::cert::X509Certificate::getSigAlgName () const [pure virtual]

6.684.3.10 virtual std::string decaf::security::cert::X509Certificate::getSigAlgOID () const [pure virtual]

6.684.3.11 virtual void decaf::security::cert::X509Certificate::getSigAlgParams (std::vector< unsigned char > & *output*) const [pure virtual]

6.684.3.12 virtual void decaf::security::cert::X509Certificate::getSignature (std::vector< unsigned char > & *output*) const [pure virtual]

6.684.3.13 virtual void decaf::security::cert::X509Certificate::getSubjectUniqueID (std::vector< bool > & *output*) const [pure virtual]

6.684.3.14 virtual const auth::X500Principal* decaf::security::cert::X509Certificate::getSubjectX500Principal () const [pure virtual]

6.684.3.15 virtual void decaf::security::cert::X509Certificate::getTBSCertificate (std::vector< unsigned char > & *output*) const [pure virtual]

6.684.3.16 virtual int decaf::security::cert::X509Certificate::getVersion () const [pure virtual]

The documentation for this class was generated from the following file:

- src/main/decaf/security/cert/**X509Certificate.h**

6.685 cms::XAConnection Class Reference

The **XAConnection** (p. 3245) interface defines an extended **Connection** (p. 1083) type that is used to create **XASession** (p. 3262) objects.

`#include <src/main/cms/XAConnection.h>`Inheritance diagram for cms::XAConnection:

Public Member Functions

- virtual ~**XAConnection** ()
- virtual **XASession** * **createXASession** ()=0

  *Creates an **XASession** (p. 3262) object.*

6.685.1 Detailed Description

The **XAConnection** (p. 3245) interface defines an extended **Connection** (p. 1083) type that is used to create **XASession** (p. 3262) objects. This is an optional interface and CMS providers are allowed to omit an implementation and instead throw an exception from an **XAConnectionFactory** (p. 3246) stub to indicate that XA is not supported.

Since:

2.3

6.685.2 Constructor & Destructor Documentation

6.685.2.1 virtual cms::XAConnection::~XAConnection () [virtual]

6.685.3 Member Function Documentation

6.685.3.1 virtual XASession* cms::XAConnection::createXASession () [pure virtual]

Creates an **XASession** (p. 3262) object.

Returns:

a newly created **XASession** (p. 3262) instance, caller owns the pointer.

Exceptions:

CMSException *(p. 973)* If the **XAConnection** (p. 3245) object fails to create the **XASession** (p. 3262) instance due to an internal error.

Implemented in **activemq::core::ActiveMQXAConnection** (p. 538).

The documentation for this class was generated from the following file:

- src/main/cms/**XAConnection.h**

6.686 cms::XAConnectionFactory Class Reference

The **XAConnectionFactory** (p. 3246) interface is specialized interface that defines an **ConnectionFactory** (p. 1108) that creates **Connection** (p. 1083) instance that will participate in XA Transactions.

`#include <src/main/cms/XAConnectionFactory.h>`Inheritance diagram for cms::XAConnectionFactory:

Public Member Functions

- virtual ~**XAConnectionFactory** ()
- virtual **XAConnection** * **createXAConnection** ()=0

  *Creates an **XAConnection** (p. 3245) with the default user name and password.*

- virtual **XAConnection** * **createXAConnection** (const std::string &userName, const std::string &password)=0

  Creates an XA connection with the specified user name and password.

Static Public Member Functions

- static **XAConnectionFactory** * **createCMSXAConnectionFactory** (const std::string &brokerURI)

  *Static method that is used to create a provider specific XA **Connection** (p. 1083) factory.*

6.686.1 Detailed Description

The **XAConnectionFactory** (p. 3246) interface is specialized interface that defines an **ConnectionFactory** (p. 1108) that creates **Connection** (p. 1083) instance that will participate in XA Transactions. Some application provide support for grouping XA capable resource use into a distributed transaction (optional). To include CMS API transactions in a XA transaction, an application requires a XA aware library. A CMS provider exposes its XA support using an **XAConnectionFactory** (p. 3246) object, which an application uses to create **XAConnection** (p. 3245) objects.

The **XAConnectionFactory** (p. 3246) interface is optional. CMS providers are not required to support this interface. This interface is for use by CMS providers to support transactional environments. Client programs are strongly encouraged to use the transactional support available in their environment, rather than use these XA interfaces directly.

Since:

2.3

6.686.2 Constructor & Destructor Documentation

6.686.2.1 virtual cms::XAConnectionFactory::~XAConnectionFactory () [virtual]

6.686.3 Member Function Documentation

6.686.3.1 static XAConnectionFactory* cms::XAConnectionFactory::createCMSXAConnectionFactory (const std::string & *brokerURI*) [static]

Static method that is used to create a provider specific XA **Connection** (p. 1083) factory. The provider implements this method in their library and returns an instance of a **XAConnectionFactory** (p. 3246) derived object. Clients can use this method to remain abstracted from the specific CMS implementation being used.

The XA interfaces are optional in CMS however if a provider chooses to omit them it should still override this method and throw an **UnsupportedOperationException** (p. 3150) to indicate that it doesn't provide this functionality.

Parameters:

brokerURI The remote address to use to connect to the Provider.

Returns:

A pointer to a provider specific implementation of the **XAConnectionFactory** (p. 3246) interface, the caller is responsible for deleting this resource.

Exceptions:

CMSException (p. ***973***) if an internal error occurs while creating the **XAConnectionFactory** (p. 3246).

UnsupportedOperationException (p. ***3150***) if the provider does not support the XA API.

6.686.3.2 virtual XAConnection* cms::XAConnectionFactory::createXAConnection (const std::string & *userName*, const std::string & *password*) [pure virtual]

Creates an XA connection with the specified user name and password. The connection is created in stopped mode just as the standard **ConnectionFactory** (p. 1108) creates a new **Connection** (p. 1083). No messages will be delivered until the **Connection.start** (p. 2836) method is explicitly called.

Returns:

a new **XAConnectionFactory** (p. 3246) instance, the caller owns the returned pointer.

Exceptions:

CMSException (p. ***973***) if an internal error occurs while creating the **Connection** (p. 1083).

CMSSecurityException (p. ***984***) if the client authentication fails because the user name or password are invalid.

Implemented in **activemq::core::ActiveMQXAConnectionFactory** (p. 540).

6.686.3.3 virtual XAConnection* cms::XAConnectionFactory::createXAConnection () [pure virtual]

Creates an **XAConnection** (p. 3245) with the default user name and password. The connection is created in stopped mode just as the standard **Connection** (p. 1083) object is created from the **ConnectionFactory** (p. 1108). No messages will be delivered until the **Connection.start** (p. 2836) method is explicitly called.

Returns:

a new **XAConnectionFactory** (p. 3246) instance, the caller owns the returned pointer.

Exceptions:

CMSException *(p. 973)* if an internal error occurs while creating the **Connection** (p. 1083).

CMSSecurityException *(p. 984)* if the client authentication fails because the user name or password are invalid.

Implemented in **activemq::core::ActiveMQXAConnectionFactory** (p. 541).

The documentation for this class was generated from the following file:

- src/main/cms/**XAConnectionFactory.h**

6.687 cms::XAException Class Reference

The **XAException** (p. 3249) is thrown by the Resource Manager (RM) to inform the Transaction Manager of an error encountered by the involved transaction.

`#include <src/main/cms/XAException.h>`Inheritance diagram for cms::XAException:

Public Member Functions

- **XAException** ()
- **XAException** (int errorCode)
- **XAException** (const **XAException** &ex)
- **XAException** (const std::string &message)
- **XAException** (const std::string &message, const std::exception *cause)
- **XAException** (const std::string &message, const std::exception *cause, const std::vector< std::pair< std::string, int > > &stackTrace)
- virtual ~**XAException** () throw ()
- virtual **XAException** * **clone** ()

  *Creates a cloned version of this **CMSException** (p. 973) instance.*

- void **setErrorCode** (int errorCode)

  *Sets the error **code** (p. 999) for this **XAException** (p. 3249).*

- int **getErrorCode** () const

  *Gets the error **code** (p. 999) that was assigned to this **XAException** (p. 3249).*

Static Public Attributes

- static const int **XA_RBBASE**

  Code which contains the inclusive lower bound of the rollback error codes.

- static const int **XA_RBROLLBACK**

  Code which means that the rollback occurred for an unspecified reason.

- static const int **XA_RBCOMMFAIL**

  Code which means that rollback was caused by a communication failure.

- static const int **XA_RBDEADLOCK**

  Code which means that a failure occurred because a deadlock was detected.

- static const int **XA_RBINTEGRITY**

  Code which means that a condition was detected than implies a violation of the integrity of the resource.

- static const int **XA_RBOTHER**

  Code which means that the Resource Manager rolled back the transaction branch for a reason not separately listed.

- static const int **XA_RBPROTO**

  Code which means that a protocol error occurred in the Resource Manager.

- static const int **XA_RBTIMEOUT**

  Code which means that a transaction branch took too long.

- static const int **XA_RBTRANSIENT**

  Code which means that the caller may retry the transaction branch.

- static const int **XA_RBEND**

  Code which contains the inclusive upper bound of the rollback error codes.

- static const int **XA_NOMIGRATE**

  Code which means that resumption must occur where the suspension occurred.

- static const int **XA_HEURHAZ**

  Code which means that the transaction branch may have been heuristically completed.

- static const int **XA_HEURCOM**

  Code which means that the transaction branch has been heuristically committed.

- static const int **XA_HEURRB**

  Code which means that the transaction branch has been heuristically rolled back.

- static const int **XA_HEURMIX**

  Code which means that the transaction branch has been heuristically committed and rolled back.

- static const int **XA_RETRY**

  Code which means that the method returned with no effect and can be reissued.

- static const int **XA_RDONLY**

  Code which means that the transaction branch was read only and has been committed.

- static const int **XAER_ASYNC**

  Code which means that there is already an asynchronous operation outstanding.

- static const int **XAER_RMERR**

  Code which means that a Resource Manager error has occurred for the transaction branch.

- static const int **XAER_NOTA**

  Code which means that the XID is not valid.

- static const int **XAER_INVAL**

  Code which means that invalid arguments were supplied.

- static const int **XAER_PROTO**

  Code which means that the method was invoked in an improper context.

- static const int **XAER_RMFAIL**

Code which means that the Resource Manager is unavailable.

- static const int **XAER_DUPID**

  Code which means that the XID already exists.

- static const int **XAER_OUTSIDE**

  Work is being done by the Resource Manager outside the boundaries of a global transaction.

6.687.1 Detailed Description

The **XAException** (p. 3249) is thrown by the Resource Manager (RM) to inform the Transaction Manager of an error encountered by the involved transaction.

Since:

2.3

6.687.2 Constructor & Destructor Documentation

6.687.2.1 cms::XAException::XAException ()

6.687.2.2 cms::XAException::XAException (int *errorCode*)

6.687.2.3 cms::XAException::XAException (const XAException & *ex*)

6.687.2.4 cms::XAException::XAException (const std::string & *message*)

6.687.2.5 cms::XAException::XAException (const std::string & *message*, const std::exception * *cause*)

6.687.2.6 cms::XAException::XAException (const std::string & *message*, const std::exception * *cause*, const std::vector< std::pair< std::string, int > > & *stackTrace*)

6.687.2.7 virtual cms::XAException::~XAException () throw () [virtual]

6.687.3 Member Function Documentation

6.687.3.1 virtual XAException* cms::XAException::clone () [virtual]

Creates a cloned version of this **CMSException** (p. 973) instance. This method passes on ownership of the contained cause exception pointer to the clone. This method is mainly useful to the CMS provider.

Returns:

new pointer that is a clone of this Exception, caller owns.

Reimplemented from **cms::CMSException** (p. 974).

6.687.3.2 int cms::XAException::getErrorCode () const [inline]

Gets the error **code** (p. 999) that was assigned to this **XAException** (p. 3249).

Returns:

the assigned error **code** (p. 999).

6.687.3.3 void cms::XAException::setErrorCode (int *errorCode*) [inline]

Sets the error **code** (p. 999) for this **XAException** (p. 3249).

Parameters:

errorCode The error **code** (p. 999) to assign to this **XAException** (p. 3249).

6.687.4 Field Documentation

6.687.4.1 const int cms::XAException::XA_HEURCOM [static]

Code which means that the transaction branch has been heuristically committed.

6.687.4.2 const int cms::XAException::XA_HEURHAZ [static]

Code which means that the transaction branch may have been heuristically completed.

6.687.4.3 const int cms::XAException::XA_HEURMIX [static]

Code which means that the transaction branch has been heuristically committed and rolled back.

6.687.4.4 const int cms::XAException::XA_HEURRB [static]

Code which means that the transaction branch has been heuristically rolled back.

6.687.4.5 const int cms::XAException::XA_NOMIGRATE [static]

Code which means that resumption must occur where the suspension occurred.

6.687.4.6 const int cms::XAException::XA_RBBASE [static]

Code which contains the inclusive lower bound of the rollback error codes.

6.687.4.7 const int cms::XAException::XA_RBCOMMFAIL [static]

Code which means that rollback was caused by a communication failure.

6.687.4.8 const int cms::XAException::XA_RBDEADLOCK [static]

Code which means that a failure occurred because a deadlock was detected.

6.687.4.9 const int cms::XAException::XA_RBEND [static]

Code which contains the inclusive upper bound of the rollback error codes.

6.687.4.10 const int cms::XAException::XA_RBINTEGRITY [static]

Code which means that a condition was detected than implies a violation of the integrity of the resource.

6.687.4.11 const int cms::XAException::XA_RBOTHER [static]

Code which means that the Resource Manager rolled back the transaction branch for a reason not separately listed.

6.687.4.12 const int cms::XAException::XA_RBPROTO [static]

Code which means that a protocol error occurred in the Resource Manager.

6.687.4.13 const int cms::XAException::XA_RBROLLBACK [static]

Code which means that the rollback occurred for an unspecified reason.

6.687.4.14 const int cms::XAException::XA_RBTIMEOUT [static]

Code which means that a transaction branch took too long.

6.687.4.15 const int cms::XAException::XA_RBTRANSIENT [static]

Code which means that the caller may retry the transaction branch.

6.687.4.16 const int cms::XAException::XA_RDONLY [static]

Code which means that the transaction branch was read only and has been committed.

6.687.4.17 const int cms::XAException::XA_RETRY [static]

Code which means that the method returned with no effect and can be reissued.

6.687.4.18 const int cms::XAException::XAER_ASYNC [static]

Code which means that there is already an asynchronous operation outstanding.

6.687.4.19 const int cms::XAException::XAER_DUPID [static]

Code which means that the XID already exists.

6.687.4.20 const int cms::XAException::XAER_INVAL [static]

Code which means that invalid arguments were supplied.

6.687.4.21 const int cms::XAException::XAER_NOTA [static]

Code which means that the XID is not valid.

6.687.4.22 const int cms::XAException::XAER_OUTSIDE [static]

Work is being done by the Resource Manager outside the boundaries of a global transaction.

6.687.4.23 const int cms::XAException::XAER_PROTO [static]

Code which means that the method was invoked in an improper context.

6.687.4.24 const int cms::XAException::XAER_RMERR [static]

Code which means that a Resource Manager error has occurred for the transaction branch.

6.687.4.25 const int cms::XAException::XAER_RMFAIL [static]

Code which means that the Resource Manager is unavailable.
The documentation for this class was generated from the following file:

- src/main/cms/**XAException.h**

6.688 cms::XAResource Class Reference

The **XAResource** (p. 3255) interface is a CMS mapping of the industry standard XA interface based on the X/Open CAE Specification (Distributed Transaction Processing: The XA Specification).

`#include <src/main/cms/XAResource.h>`Inheritance diagram for cms::XAResource:

Public Member Functions

- virtual ~**XAResource** ()
- virtual void **commit** (const **Xid** *xid, bool onePhase)=0

  Commits a global transaction.

- virtual void **end** (const **Xid** *xid, int flags)=0

  Ends the work done for a transaction branch.

- virtual void **forget** (const **Xid** *xid)=0

  Informs the Resource Manager that it can forget about a specified transaction branch.

- virtual int **getTransactionTimeout** () const =0

  *Gets the transaction timeout value for this **XAResource** (p. 3255).*

- virtual bool **isSameRM** (const **XAResource** *theXAResource)=0

  *Returns true if the ResourceManager for this **XAResource** (p. 3255) is the same as the Resource Manager for a supplied **XAResource** (p. 3255).*

- virtual int **prepare** (const **Xid** *xid)=0

  Requests the Resource manager to prepare to commit a specified transaction.

- virtual int **recover** (int flag, **Xid** **recovered)=0

  Get a list of prepared transaction branches.

- virtual void **rollback** (const **Xid** *xid)=0

  Requests the Resource Manager to rollback a specified transaction branch.

- virtual bool **setTransactionTimeout** (int seconds)=0

  *Sets the transaction timeout value for this **XAResource** (p. 3255).*

- virtual void **start** (const **Xid** *xid, int flags)=0

  Starts work for a specified transaction branch.

Static Public Attributes

- static const int **TMENDRSCAN**

  Flag to end a recovery scan.

- static const int **TMFAIL**

  Flag to indicate that the caller is dissociation from a transaction branch and that it should be marked rollback only.

- static const int **TMJOIN**

  Flag to indicate that the caller is joining sn existing transaction branch.

- static const int **TMNOFLAGS**

  Flag that indicates that no flags options are selected.

- static const int **TMONEPHASE**

  Flag that indicates the caller is using one-phase commit optimization.

- static const int **TMRESUME**

  Flag that indicates the caller is resuming association with a suspended transaction branch.

- static const int **TMSTARTRSCAN**

  Flag that indicates the start of a recovery scan.

- static const int **TMSUCCESS**

  Flag that indicates the caller is dissociating from a transaction branch.

- static const int **TMSUSPEND**

  Flag that indicates that the caller is suspending (not terminating) its association with a transaction branch.

- static const int **XA_RDONLY**

  Flag that indicates that transaction work has been read only and has been committed normally.

- static const int **XA_OK**

  Flag that indicates that transaction work has been Prepared normally.

6.688.1 Detailed Description

The **XAResource** (p. 3255) interface is a CMS mapping of the industry standard XA interface based on the X/Open CAE Specification (Distributed Transaction Processing: The XA Specification). The XA interface defines the contract between a Resource Manager and a Transaction Manager in a distributed transaction processing (DTP) environment. A CMS provider implements this interface to support the association between a global transaction and a message broker connection.

The **XAResource** (p. 3255) is exposed to CMS client so that they can proxy calls from the Transaction Manager API of their choosing to the CMS provider. The CMS provider should behave and a standard XA Resource Manager its up to the client however to transmit the Transaction Manager's calls to the CMS provider through this interface.

Since:

2.3

6.688.2 Constructor & Destructor Documentation

6.688.2.1 virtual cms::XAResource::~XAResource () [virtual]

6.688.3 Member Function Documentation

6.688.3.1 virtual void cms::XAResource::commit (const Xid * *xid*, bool *onePhase*) [pure virtual]

Commits a global transaction.

Parameters:

xid the XID which identifies the global transaction.

onePhase true if the resource manager should use a one-phase commit protocol to commit the transaction.

Exceptions:

XAException *(*p. *3249)* if an error occurred.

Possible errors are identified by the errorcode in the **XAException** (p. 3249) and include: XA_-HEURHAZ, XA_HEURCOM, XA_HEURRB, XA_HEURMIX, XAER_RMERR, XAER_-RMFAIL, XAER_NOTA, XAER_INVAL, or XAER_PROTO. In addition, one of the XA_RB* errors can occur if the transaction was not committed and onePhase was set to true. On completion of this method, the Resource Manager has rolled back the transaction and released resources held by the transaction.

Implemented in **activemq::core::ActiveMQTransactionContext** (p. 531).

6.688.3.2 virtual void cms::XAResource::end (const Xid * *xid*, int *flags*) [pure virtual]

Ends the work done for a transaction branch. The Resource Manager disconnects the XA resource from the transaction branch and allows the transaction to complete.

Parameters:

xid the XID which identifies the global transaction. Should have previously been used as the parameter to a start. method.

flags a flags integer - one of: **XAResource::TMSUCCESS** (p. 3261), **XAResource::TMFAIL** (p. 3261), or **XAResource::TMSUSPEND** (p. 3261).

TMSUCCESS means that this section of work completed successfully.

TMFAIL means that this section of work failed. The Resource Manager can mark the transaction for rollback only.

TMSUSPEND means that this section of work is suspended and not yet complete. The associated transaction context is also suspended and must be restarted with a call to **start(Xid, int)** (p. ??) with the TMRESUME flag.

Exceptions:

XAException *(*p. *3249)* if an error occurs. Possible error identified in the errorcode include: XAER_RMERR, XAER_RMFAIL, XAER_NOTA, XAER_INVAL, XAER_-PROTO, or XA_RB*.

Implemented in **activemq::core::ActiveMQTransactionContext** (p. 532).

6.688.3.3 virtual void cms::XAResource::forget (const Xid * *xid*) [pure virtual]

Informs the Resource Manager that it can forget about a specified transaction branch.

Parameters:

xid the XID which identifies the global transaction.

Exceptions:

XAException *(p. 3249)* if an error occurs. Possible error identified in the errorcode include: XAER_RMERR, XAER_RMFAIL, XAER_NOTA, XAER_INVAL, or XAER_PROTO.

Implemented in **activemq::core::ActiveMQTransactionContext** (p. 532).

6.688.3.4 virtual int cms::XAResource::getTransactionTimeout () const [pure virtual]

Gets the transaction timeout value for this **XAResource** (p. 3255). The default timeout value is the default timeout value set for the Resource Manager.

Returns:

the transaction timeout value for this **XAResource** (p. 3255) in seconds.

Exceptions:

XAException *(p. 3249)* if an error occurs. Possible error identified in the errorcode include: XAER_RMERR and XAER_RMFAIL.

Implemented in **activemq::core::ActiveMQTransactionContext** (p. 533).

6.688.3.5 virtual bool cms::XAResource::isSameRM (const XAResource * *theXAResource*) [pure virtual]

Returns true if the ResourceManager for this **XAResource** (p. 3255) is the same as the Resource Manager for a supplied **XAResource** (p. 3255).

Parameters:

theXAResource an **XAResource** (p. 3255) object

Returns:

true if the Resource Manager for this **XAResource** (p. 3255) is the same as the Resource Manager for `theXAResource`.

Exceptions:

XAException *(p. 3249)* if an error occurs. Possible error identified in the errorcode include: XAER_RMERR and XAER_RMFAIL.

6.688.3.6 virtual int cms::XAResource::prepare (const Xid * *xid*) [pure virtual]

Requests the Resource manager to prepare to commit a specified transaction.

Parameters:

xid the XID which identifies the global transaction.

Returns:

an integer: XA_RDONLY or XA_OK. XA_OK implies that the transaction work has been prepared normally, XA_RDONLY implies that the transaction branch is read only and has been committed. If there is a failure which requires a rollback, an **XAException** (p. 3249) is raised.

Exceptions:

XAException *(p. 3249)* if an error occurs. Possible error identified in the errorcode include: XA_RB*, XAER_RMERR, XAER_RMFAIL, XAER_NOTA, XAER_INVAL, or XAER_PROTO.

Implemented in **activemq::core::ActiveMQTransactionContext** (p. 534).

6.688.3.7 virtual int cms::XAResource::recover (int *flag*, Xid ** *recovered*) [pure virtual]

Get a list of prepared transaction branches. Typically used by a transaction manager during recovery to find transaction branches that are in prepared or heuristically completed states.

Parameters:

flag an integer. Must be one of: **XAResource::TMSTARTRSCAN** (p. 3261), **XAResource::TMENDRSCAN** (p. 3260), **XAResource::TMNOFLAGS** (p. 3261).

Returns:

an array of zero or more XIDs identifying the transaction branches in the prepared or heuristically completed states.

Exceptions:

XAException *(p. 3249)* if an error occurs. Possible error identified in the errorcode include: XAER_RMERR, XAER_RMFAIL, XAER_INVAL, and XAER_PROTO.

Implemented in **activemq::core::ActiveMQTransactionContext** (p. 534).

6.688.3.8 virtual void cms::XAResource::rollback (const Xid * *xid*) [pure virtual]

Requests the Resource Manager to rollback a specified transaction branch.

Parameters:

xid the XID which identifies the transaction branch.

Exceptions:

XAException *(p. 3249)* if an error occurs.

Implemented in **activemq::core::ActiveMQTransactionContext** (p. 535).

6.688.3.9 virtual bool cms::XAResource::setTransactionTimeout (int *seconds*) [pure virtual]

Sets the transaction timeout value for this **XAResource** (p. 3255). If the value is set to 0, the default timeout value for the Resource Manager is used.

Parameters:

seconds the new Timeout value in seconds.

Returns:

true if the transaction timeout value has been updated, false otherwise.

Exceptions:

XAException *(p. 3249)* if an error occurs. Possible error identified in the errorcode include: XAER_RMERR, XAER_RMFAIL, or XAER_INVAL.

Implemented in **activemq::core::ActiveMQTransactionContext** (p. 535).

6.688.3.10 virtual void cms::XAResource::start (const Xid * *xid*, int *flags*) [pure virtual]

Starts work for a specified transaction branch.

Parameters:

xid the XID which identifies the transaction branch.

flags an integer. Must be one of **XAResource::TMNOFLAGS** (p. 3261), **XAResource::TMJOIN** (p. 3261), or **XAResource::TMRESUME** (p. 3261).

TMJOIN implies that the start applies to joining a transaction previously passed to the Resource Manager.

TMRESUME implies that the start applies to a suspended transaction that should be restarted.

If TMNOFLAGS is specified, then if the transaction has been previously seen by the Resource Manager, an **XAException** (p. 3249) is raised with the **code** (p. 999) XAER_DUPID.

Exceptions:

XAException *(p. 3249)* if an error occurs. Possible error identified in the errorcode include: XA_RB*, XAER_RMERR, XAER_RMFAIL, XAER_DUPID, XAER_OUTSIDE, XAER_NOTA, XAER_INVAL, or XAER_PROTO.

Implemented in **activemq::core::ActiveMQTransactionContext** (p. 536).

6.688.4 Field Documentation

6.688.4.1 const int cms::XAResource::TMENDRSCAN [static]

Flag to end a recovery scan.

6.688.4.2 const int cms::XAResource::TMFAIL [static]

Flag to indicate that the caller is dissociation from a transaction branch and that it should be marked rollback only.

6.688.4.3 const int cms::XAResource::TMJOIN [static]

Flag to indicate that the caller is joining sn existing transaction branch.

6.688.4.4 const int cms::XAResource::TMNOFLAGS [static]

Flag that indicates that no flags options are selected. (ie a null flag)

6.688.4.5 const int cms::XAResource::TMONEPHASE [static]

Flag that indicates the caller is using one-phase commit optimization.

6.688.4.6 const int cms::XAResource::TMRESUME [static]

Flag that indicates the caller is resuming association with a suspended transaction branch.

6.688.4.7 const int cms::XAResource::TMSTARTRSCAN [static]

Flag that indicates the start of a recovery scan.

6.688.4.8 const int cms::XAResource::TMSUCCESS [static]

Flag that indicates the caller is dissociating from a transaction branch.

6.688.4.9 const int cms::XAResource::TMSUSPEND [static]

Flag that indicates that the caller is suspending (not terminating) its association with a transaction branch.

6.688.4.10 const int cms::XAResource::XA_OK [static]

Flag that indicates that transaction work has been Prepared normally.

6.688.4.11 const int cms::XAResource::XA_RDONLY [static]

Flag that indicates that transaction work has been read only and has been committed normally.

The documentation for this class was generated from the following file:

- src/main/cms/**XAResource.h**

6.689 cms::XASession Class Reference

The **XASession** (p. 3262) interface extends the capability of **Session** (p. 2665) by adding access to a CMS provider's support for the operating inside an XA Transaction (optional).

`#include <src/main/cms/XASession.h>`Inheritance diagram for cms::XASession:

Public Member Functions

- virtual ~**XASession** ()
- virtual **XAResource** * **getXAResource** () const =0

  *Returns the XA resource associated with this **Session** (p. 2665) to the caller.*

6.689.1 Detailed Description

The **XASession** (p. 3262) interface extends the capability of **Session** (p. 2665) by adding access to a CMS provider's support for the operating inside an XA Transaction (optional). This support takes the form of a **cms::XAResource** (p. 3255) object. The functionality of this object closely resembles that defined by the standard X/Open XA Resource interface.

An application controls the transactional assignment of an **XASession** (p. 3262) by obtaining its **XAResource** (p. 3255). It uses the **XAResource** (p. 3255) to assign the session to a transaction, prepare and commit work on the transaction, and so on.

An **XAResource** (p. 3255) provides some fairly sophisticated facilities for interleaving work on multiple transactions, recovering a list of transactions in progress, and so on. A XA aware CMS provider must fully implement this functionality.

The **XASession** (p. 3262) instance will behave much like a normal **cms::Session** (p. 2665) however some methods will will not operate as normal, any call to **Session::commit** (p. 2669), or **Session::rollback** (p. 2677) will result in a **CMSException** (p. 973) being thrown. Also when not inside an XA transaction the **MessageConsumer** (p. 2114) will operate as if it were in the AutoAcknowlege mode.

The **XASession** (p. 3262) interface is optional. CMS providers are not required to support this interface. This interface is for use by CMS providers to support transactional environments. Client programs are strongly encouraged to use the transactional support available in their environment, rather than use these XA interfaces directly.

Since:

2.3

6.689.2 Constructor & Destructor Documentation

6.689.2.1 virtual cms::XASession::~XASession () [virtual]

6.689.3 Member Function Documentation

6.689.3.1 virtual XAResource* cms::XASession::getXAResource () const [pure virtual]

Returns the XA resource associated with this **Session** (p. 2665) to the caller. The client can use the provided XA resource to interact with the XA Transaction Manager in use in the client application.

Returns:

an XAResouce instance to the caller, the caller does not own this pointer and should not delete it.

Implemented in **activemq::core::ActiveMQXASession** (p. 543), and **activemq::core::kernels::ActiveMQXASessionKernel** (p. 545).

The documentation for this class was generated from the following file:

- src/main/cms/**XASession.h**

6.690 activemq::commands::XATransactionId Class Reference

`#include <src/main/activemq/commands/XATransactionId.h>`Inheritance diagram for activemq::commands::XATransactionId:

Public Types

- typedef **decaf::lang::PointerComparator< XATransactionId > COMPARATOR**

Public Member Functions

- **XATransactionId** ()
- **XATransactionId** (const **XATransactionId** &other)
- **XATransactionId** (const **cms::Xid** *xid)
- virtual ~**XATransactionId** ()
- virtual unsigned char **getDataStructureType** () const

  *Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.*

- virtual **XATransactionId** * **cloneDataStructure** () const

  Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

- virtual void **copyDataStructure** (const **DataStructure** *src)
- virtual std::string **toString** () const

  *Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.*

- virtual bool **equals** (const **DataStructure** *value) const
- virtual bool **isXATransactionId** () const
- virtual Xid * **clone** () const

  Creates a Copy of this Xid instance that contains the same id values.

- virtual bool **equals** (const Xid *other) const
- virtual int **getBranchQualifier** (unsigned char *buffer, int size) const

  Gets the transaction branch qualifier component of the XID.

- virtual int **getGlobalTransactionId** (unsigned char *buffer, int size) const

  Gets the global transaction id component of the XID.

- virtual int **getFormatId** () const

  Gets the format identifier component of the XID.

- virtual void **setFormatId** (int **formatId**)
- virtual const std::vector< unsigned char > & **getGlobalTransactionId** () const
- virtual std::vector< unsigned char > & **getGlobalTransactionId** ()
- virtual void **setGlobalTransactionId** (const std::vector< unsigned char > &**globalTransactionId**)

- virtual const std::vector< unsigned char > & **getBranchQualifier** () const
- virtual std::vector< unsigned char > & **getBranchQualifier** ()
- virtual void **setBranchQualifier** (const std::vector< unsigned char > &**branchQualifier**)
- virtual int **compareTo** (const **XATransactionId** &value) const
- virtual bool **equals** (const **XATransactionId** &value) const
- virtual bool **operator==** (const **XATransactionId** &value) const
- virtual bool **operator<** (const **XATransactionId** &value) const
- **XATransactionId** & **operator=** (const **XATransactionId** &other)
- int **getHashCode** () const

Static Public Attributes

- static const unsigned char **ID_XATRANSACTIONID** = 112

Protected Attributes

- int **formatId**
- std::vector< unsigned char > **globalTransactionId**
- std::vector< unsigned char > **branchQualifier**

6.690.1 Member Typedef Documentation

6.690.1.1 typedef decaf::lang::PointerComparator<XATransactionId> activemq::commands::XATransactionId::COMPARATOR

Reimplemented from **activemq::commands::TransactionId** (p. 3082).

6.690.2 Constructor & Destructor Documentation

6.690.2.1 activemq::commands::XATransactionId::XATransactionId ()

6.690.2.2 activemq::commands::XATransactionId::XATransactionId (const XATransactionId & *other*)

6.690.2.3 activemq::commands::XATransactionId::XATransactionId (const cms::Xid * *xid*)

6.690.2.4 virtual activemq::commands::XATransactionId::~XATransactionId () [virtual]

6.690.3 Member Function Documentation

6.690.3.1 virtual Xid* activemq::commands::XATransactionId::clone () const [virtual]

Creates a Copy of this Xid instance that contains the same id values.

Returns:

a new Xid instance that is equal to this one when compared.

Implements **cms::Xid** (p. 3275).

6.690.3.2 virtual XATransactionId* activemq::commands::XATransactionId::cloneDataStructure () const [virtual]

Clone this obbject and return a new instance that the caller now owns, this will be an exact copy of this one.

Returns:

new copy of this object.

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.690.3.3 virtual int activemq::commands::XATransactionId::compareTo (const XATransactionId & *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.690.3.4 virtual void activemq::commands::XATransactionId::copyDataStructure (const DataStructure * *src*) [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.690.3.5 virtual bool activemq::commands::XATransactionId::equals (const XATransactionId & *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.690.3.6 virtual bool activemq::commands::XATransactionId::equals (const Xid * *other*) const [virtual]

6.690.3.7 virtual bool activemq::commands::XATransactionId::equals (const DataStructure * *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3083).

6.690.3.8 virtual std::vector<unsigned char>& activemq::commands::XATransactionId::getBranchQualifier () [virtual]

6.690.3.9 virtual const std::vector<unsigned char>& activemq::commands::XATransactionId::getBranchQualifier () const [virtual]

6.690.3.10 virtual int activemq::commands::XATransactionId::getBranchQualifier (unsigned char * *buffer*, int *size*) const [virtual]

Gets the transaction branch qualifier component of the XID. The value of this Xid's branch qualifier is copied into the buffer provided. If the size of the provided buffer is not large enough to accommodate the branch qualifier then no copy is performed and the method returns -1.

Parameters:

buffer The location in memory to copy the qualifier bytes to.

size The size of the buffer provided.

Returns:

the number of bytes copied into the buffer, or -1 if the buffer provided was not large enough.

Exceptions:

XAException if the size parameter is less than zero or buffer is NULL.

Implements **cms::Xid** (p. 3275).

6.690.3.11 virtual unsigned char activemq::commands::XATransactionId::getDataStructureType () const [virtual]

Get the **DataStructure** (p. 1293) Type as defined in CommandTypes.h.

Returns:

The type of the data structure

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.690.3.12 virtual int activemq::commands::XATransactionId::getFormatId () const [virtual]

Gets the format identifier component of the XID.

Returns:

an integer containing the format identifier. 0 means the OSI CCR format.

Implements **cms::Xid** (p. 3275).

6.690.3.13 virtual std::vector<unsigned char>& activemq::commands::XATransactionId::getGlobalTransactionId () [virtual]

6.690.3.14 virtual const std::vector<unsigned char>& activemq::commands::XATransactionId::getGlobalTransactionId () const [virtual]

6.690.3.15 virtual int activemq::commands::XATransactionId::getGlobalTransactionId (unsigned char * *buffer*, int *size*) const [virtual]

Gets the global transaction id component of the XID. The value of this Xid's transaction id is copied into the buffer provided. If the size of the provided buffer is not large enough to accommodate the transaction id then no copy is performed and the method returns -1.

Parameters:

buffer The location in memory to copy the transaction id bytes to.

size The size of the buffer provided.

Returns:

the number of bytes copied into the buffer, or -1 if the buffer provided was not large enough.

Exceptions:

XAException if the size parameter is less than zero or buffer is NULL.

Implements **cms::Xid** (p. 3276).

6.690.3.16 int activemq::commands::XATransactionId::getHashCode () const

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.690.3.17 virtual bool activemq::commands::XATransactionId::isXATransactionId () const [inline, virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.690.3.18 virtual bool activemq::commands::XATransactionId::operator< (const XATransactionId & *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.690.3.19 XATransactionId& activemq::commands::XATransactionId::operator= (const XATransactionId & *other*)

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.690.3.20 virtual bool activemq::commands::XATransactionId::operator== (const XATransactionId & *value*) const [virtual]

Reimplemented from **activemq::commands::TransactionId** (p. 3084).

6.690.3.21 virtual void activemq::commands::XATransactionId::setBranchQualifier (const std::vector< unsigned char > & *branchQualifier*) [virtual]

6.690.3.22 virtual void activemq::commands::XATransactionId::setFormatId (int *formatId*) [virtual]

6.690.3.23 virtual void activemq::commands::XATransactionId::setGlobalTransactionId (const std::vector< unsigned char > & *globalTransactionId*) [virtual]

6.690.3.24 virtual std::string activemq::commands::XATransactionId::toString () const [virtual]

Returns a string containing the information for this **DataStructure** (p. 1293) such as its type and value of its elements.

Returns:

formatted string useful for debugging.

Reimplemented from **activemq::commands::TransactionId** (p. 3085).

6.690.4 Field Documentation

6.690.4.1 std::vector<unsigned char> activemq::commands::XATransactionId::branchQualifier [protected]

6.690.4.2 int activemq::commands::XATransactionId::formatId [protected]

6.690.4.3 std::vector<unsigned char> activemq::commands::XATransactionId::globalTransactionId [protected]

6.690.4.4 const unsigned char activemq::commands::XATransactionId::ID_XATRANSACTIONID = 112 [static]

The documentation for this class was generated from the following file:

- src/main/activemq/commands/**XATransactionId.h**

6.691 activemq::wireformat::openwire::marshal::generated::XATransacti Class Reference

Marshaling **code** (p. 999) for Open Wire Format for **XATransactionIdMarshaller** (p. 3270).

`#include <src/main/activemq/wireformat/openwire/marshal/generated/XATransactionIdMarshaller.h>`In
diagram for activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller:

Public Member Functions

- **XATransactionIdMarshaller** ()
- virtual ~**XATransactionIdMarshaller** ()
- virtual **commands::DataStructure** * **createObject** () const

  Creates a new instance of the class that this class is a marshaling director for.

- virtual unsigned char **getDataStructureType** () const

  Gets the DataStructureType that this class marshals/unmarshals.

- virtual void **tightUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn, **utils::BooleanStream** *bs)

  Tight Un-marhsal to the given stream.

- virtual int **tightMarshal1** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **tightMarshal2** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut, **utils::BooleanStream** *bs)

  Tight Marhsal to the given stream.

- virtual void **looseUnmarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataInputStream** *dataIn)

  Loose Un-marhsal to the given stream.

- virtual void **looseMarshal** (**OpenWireFormat** *wireFormat, **commands::DataStructure** *dataStructure, **decaf::io::DataOutputStream** *dataOut)

  Tight Marhsal to the given stream.

6.691.1 Detailed Description

Marshaling **code** (p. 999) for Open Wire Format for **XATransactionIdMarshaller** (p. 3270). NOTE!: This file is auto **generated** (p. 84) - do not modify! if you need to make a change, please see the Java Classes in the activemq-openwire-generator module

6.691.2 Constructor & Destructor Documentation

6.691.2.1 activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller::XATran
() [inline]

6.691.2.2 virtual activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller::~XATra
() [inline, virtual]

6.691.3 Member Function Documentation

6.691.3.1 virtual commands::DataStructure* activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller::createObj
() const [virtual]

Creates a new instance of the class that this class is a marshaling director for.

Returns:

newly allocated Command

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1282).

6.691.3.2 virtual unsigned char activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller::getDataSt
() const [virtual]

Gets the DataStructureType that this class marshals/unmarshals.

Returns:

byte Id of this classes DataStructureType

Implements **activemq::wireformat::openwire::marshal::DataStreamMarshaller** (p. 1283).

6.691.3.3 virtual void activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller::looseMars
(OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - DataOutputStream to **marshal** (p. 83) to

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3087).

6.691.3.4 virtual void activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller::looseUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*) [virtual]

Loose Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3087).

6.691.3.5 virtual int activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format The OpenwireFormat properties

command The object to Marshal

bs The boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3088).

6.691.3.6 virtual void activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller::tightMars (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataOutputStream * *ds*, utils::BooleanStream * *bs*) [virtual]

Tight Marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Marshal

ds - the DataOutputStream to Marshal to

bs - boolean stream to **marshal** (p. 83) to.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3088).

6.691.3.7 virtual void activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller::tightUnm (OpenWireFormat * *format*, commands::DataStructure * *command*, decaf::io::DataInputStream * *dis*, utils::BooleanStream * *bs*) [virtual]

Tight Un-marhsal to the given stream.

Parameters:

format - The OpenwireFormat properties

command - the object to Un-Marshal

dis - the DataInputStream to Un-Marshal from

bs - boolean stream to unmarshal from.

Exceptions:

IOException if an error occurs.

Reimplemented from **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller** (p. 3088).

The documentation for this class was generated from the following file:

- src/main/activemq/wireformat/openwire/marshal/generated/**XATransactionIdMarshaller.h**

6.692 cms::Xid Class Reference

An interface which provides a mapping for the X/Open XID transaction identifier structure.

`#include <src/main/cms/Xid.h>`Inheritance diagram for cms::Xid:

Public Member Functions

- **Xid** ()
- virtual ~**Xid** ()
- virtual **Xid** * **clone** () const =0

  *Creates a Copy of this **Xid** (p. 3274) instance that contains the same id values.*

- virtual bool **equals** (const **Xid** *other) const =0

  *Compares this **Xid** (p. 3274) to another and returns true if they are the same.*

- virtual int **getBranchQualifier** (unsigned char *buffer, int size) const =0

  Gets the transaction branch qualifier component of the XID.

- virtual int **getFormatId** () const =0

  Gets the format identifier component of the XID.

- virtual int **getGlobalTransactionId** (unsigned char *buffer, int size) const =0

  Gets the global transaction id component of the XID.

Static Public Attributes

- static const int **MAXGTRIDSIZE**

  The maximum number of bytes which will be copied into the array passed to getGlobaltransactionId().

- static const int **MAXBQUALSIZE**

  *The maximum number of bytes which will be copied into the array that is passed to **getBranchQualifier()** (p. 3275).*

6.692.1 Detailed Description

An interface which provides a mapping for the X/Open XID transaction identifier structure. The **Xid** (p. 3274) interface is used by the Transaction Manager and the Resource managers. It is not typically used by application programs directly but the application developer must define a mechanism to map the calls and structures used by the Transaction Manager API in use into the format used by the CMS XA interfaces.

Since:

2.3

6.692.2 Constructor & Destructor Documentation

6.692.2.1 cms::Xid::Xid ()

6.692.2.2 virtual cms::Xid::~Xid () [virtual]

6.692.3 Member Function Documentation

6.692.3.1 virtual Xid* cms::Xid::clone () const [pure virtual]

Creates a Copy of this **Xid** (p. 3274) instance that contains the same id values.

Returns:

a new **Xid** (p. 3274) instance that is equal to this one when compared.

Implemented in **activemq::commands::XATransactionId** (p. 3265).

6.692.3.2 virtual bool cms::Xid::equals (const Xid * *other*) const [pure virtual]

Compares this **Xid** (p. 3274) to another and returns true if they are the same.

Returns:

true if both Xid's represent that same id value.

6.692.3.3 virtual int cms::Xid::getBranchQualifier (unsigned char * *buffer*, int *size*) const [pure virtual]

Gets the transaction branch qualifier component of the XID. The value of this Xid's branch qualifier is copied into the buffer provided. If the size of the provided buffer is not large enough to accommodate the branch qualifier then no copy is performed and the method returns -1.

Parameters:

buffer The location in memory to copy the qualifier bytes to.

size The size of the buffer provided.

Returns:

the number of bytes copied into the buffer, or -1 if the buffer provided was not large enough.

Exceptions:

XAException *(p. 3249)* if the size parameter is less than zero or buffer is NULL.

Implemented in **activemq::commands::XATransactionId** (p. 3266).

6.692.3.4 virtual int cms::Xid::getFormatId () const [pure virtual]

Gets the format identifier component of the XID.

Returns:

an integer containing the format identifier. 0 means the OSI CCR format.

Implemented in **activemq::commands::XATransactionId** (p. 3267).

6.692.3.5 virtual int cms::Xid::getGlobalTransactionId (unsigned char * *buffer*, int *size*) const [pure virtual]

Gets the global transaction id component of the XID. The value of this Xid's transaction id is copied into the buffer provided. If the size of the provided buffer is not large enough to accommodate the transaction id then no copy is performed and the method returns -1.

Parameters:

buffer The location in memory to copy the transaction id bytes to.

size The size of the buffer provided.

Returns:

the number of bytes copied into the buffer, or -1 if the buffer provided was not large enough.

Exceptions:

XAException *(p. 3249)* if the size parameter is less than zero or buffer is NULL.

Implemented in **activemq::commands::XATransactionId** (p. 3267).

6.692.4 Field Documentation

6.692.4.1 const int cms::Xid::MAXBQUALSIZE [static]

The maximum number of bytes which will be copied into the array that is passed to **getBranchQualifier()** (p. 3275).

6.692.4.2 const int cms::Xid::MAXGTRIDSIZE [static]

The maximum number of bytes which will be copied into the array passed to getGlobaltransactionId().

The documentation for this class was generated from the following file:

- src/main/cms/**Xid.h**

6.693 decaf::util::logging::XMLFormatter Class Reference

Format a **LogRecord** (p. 1947) into a standard XML format.

`#include <src/main/decaf/util/logging/XMLFormatter.h>`Inheritance diagram for decaf::util::logging::XMLFormatter:

Public Member Functions

- **XMLFormatter** ()
- virtual ~**XMLFormatter** ()
- virtual std::string **format** (const **LogRecord** &record) const

  *Converts a **LogRecord** (p. 1947) into an XML string.*

- virtual std::string **getHead** (const **Handler** *handler)

  Returns the header string for a set of log records formatted as XML strings, using the output handler's encoding if it is defined, otherwise using the default platform encoding.

- virtual std::string **getTail** (const **Handler** *handler)

  Returns the tail string for a set of log records formatted as XML strings.

6.693.1 Detailed Description

Format a **LogRecord** (p. 1947) into a standard XML format. TODO - Currently only outputs UTF-8 The **XMLFormatter** (p. 3277) can be used with arbitrary character encodings, but it is recommended that it normally be used with UTF-8. The character encoding can be set on the output **Handler** (p. 1577).

Since:

1.0

6.693.2 Constructor & Destructor Documentation

6.693.2.1 decaf::util::logging::XMLFormatter::XMLFormatter ()

6.693.2.2 virtual decaf::util::logging::XMLFormatter::~XMLFormatter () [virtual]

6.693.3 Member Function Documentation

6.693.3.1 virtual std::string decaf::util::logging::XMLFormatter::format (const LogRecord & *record*) const [virtual]

Converts a **LogRecord** (p. 1947) into an XML string.

Parameters:

record The log record to be formatted.

Returns:

the log record formatted as an XML string.

Implements **decaf::util::logging::Formatter** (p. 1556).

6.693.3.2 virtual std::string decaf::util::logging::XMLFormatter::getHead (const Handler * *handler*) [virtual]

Returns the header string for a set of log records formatted as XML strings, using the output handler's encoding if it is defined, otherwise using the default platform encoding.

Parameters:

handler The output handler, may be NULL.

Returns:

the header string for log records formatted as XML strings.

6.693.3.3 virtual std::string decaf::util::logging::XMLFormatter::getTail (const Handler * *handler*) [virtual]

Returns the tail string for a set of log records formatted as XML strings.

Parameters:

handler The output handler, may be NULL.

Returns:

the tail string for log records formatted as XML strings.

The documentation for this class was generated from the following file:

- src/main/decaf/util/logging/**XMLFormatter.h**

6.694 z_stream_s Struct Reference

`#include <src/main/decaf/internal/util/zip/zlib.h>`

Data Fields

- **Bytef * next_in**
- **uInt avail_in**
- **uLong total_in**
- **Bytef * next_out**
- **uInt avail_out**
- **uLong total_out**
- char * **msg**
- struct **internal_state** FAR * **state**
- alloc_func **zalloc**
- free_func **zfree**
- **voidpf opaque**
- int **data_type**
- **uLong adler**
- **uLong reserved**

6.694.1 Field Documentation

6.694.1.1 uLong z_stream_s::adler

6.694.1.2 uInt z_stream_s::avail_in

6.694.1.3 uInt z_stream_s::avail_out

6.694.1.4 int z_stream_s::data_type

6.694.1.5 char* z_stream_s::msg

6.694.1.6 Bytef* z_stream_s::next_in

6.694.1.7 Bytef* z_stream_s::next_out

6.694.1.8 voidpf z_stream_s::opaque

6.694.1.9 uLong z_stream_s::reserved

6.694.1.10 struct internal_state FAR* z_stream_s::state [read]

6.694.1.11 uLong z_stream_s::total_in

6.694.1.12 uLong z_stream_s::total_out

6.694.1.13 alloc_func z_stream_s::zalloc

6.694.1.14 free_func z_stream_s::zfree

The documentation for this struct was generated from the following file:

- src/main/decaf/internal/util/zip/**zlib.h**

6.695 decaf::util::zip::ZipException Class Reference

`#include <src/main/decaf/util/zip/ZipException.h>`Inheritance diagram for decaf::util::zip::ZipException:

Public Member Functions

- **ZipException** ()

  Default Constructor.

- **ZipException** (const **lang::Exception** &ex)

  Copy Constructor.

- **ZipException** (const **ZipException** &ex)

  Copy Constructor.

- **ZipException** (const char *file, const int lineNumber, const std::exception *cause, const char *msg,...)

  Constructor - Initializes the file name and line number where this message occurred.

- **ZipException** (const std::exception *cause)

  Constructor.

- **ZipException** (const char *file, const int lineNumber, const char *msg,...)

  Constructor.

- virtual **ZipException** * **clone** () const

  Clones this exception.

- virtual ~**ZipException** () throw ()

6.695.1 Constructor & Destructor Documentation

6.695.1.1 decaf::util::zip::ZipException::ZipException ()

Default Constructor.

6.695.1.2 decaf::util::zip::ZipException::ZipException (const lang::Exception & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy

6.695.1.3 decaf::util::zip::ZipException::ZipException (const ZipException & *ex*)

Copy Constructor.

Parameters:

ex the exception to copy, which is an instance of this type

6.695.1.4 decaf::util::zip::ZipException::ZipException (const char * *file*, const int *lineNumber*, const std::exception * *cause*, const char * *msg*, ...)

Constructor - Initializes the file name and line number where this message occurred. Sets the message to report, using an optional list of arguments to parse into the message

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

cause The exception that was the cause for this one to be thrown.

msg The message to report

... list of primitives that are formatted into the message

6.695.1.5 decaf::util::zip::ZipException::ZipException (const std::exception * *cause*)

Constructor.

Parameters:

cause Pointer to the exception that caused this one to be thrown, the object is cloned caller retains ownership.

6.695.1.6 decaf::util::zip::ZipException::ZipException (const char * *file*, const int *lineNumber*, const char * *msg*, ...)

Constructor.

Parameters:

file The file name where exception occurs

lineNumber The line number where the exception occurred.

msg The message to report

... list of primitives that are formatted into the message

6.695.1.7 virtual decaf::util::zip::ZipException::~ZipException () throw () [virtual]

6.695.2 Member Function Documentation

6.695.2.1 virtual ZipException* decaf::util::zip::ZipException::clone () const [virtual]

Clones this exception. This is useful for cases where you need to preserve the type of the original exception as well as the message. All subclasses should override.

Returns:

a new instance of an Exception that is a copy of this one.

Reimplemented from **decaf::io::IOException** (p. 1775).

The documentation for this class was generated from the following file:

- src/main/decaf/util/zip/**ZipException.h**

Chapter 7

File Documentation

7.1 src/main/activemq/cmsutil/CachedConsumer.h File Reference

```
#include <cms/MessageConsumer.h>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::cmsutil::CachedConsumer**

  A cached message consumer contained within a pooled session.

Namespaces

- namespace **activemq**

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- namespace **activemq::cmsutil**

7.2 src/main/activemq/cmsutil/CachedProducer.h File Reference

`#include <cms/MessageProducer.h>`

`#include <activemq/util/Config.h>`

Data Structures

- class **activemq::cmsutil::CachedProducer**

  A cached message producer contained within a pooled session.

Namespaces

- namespace **activemq**

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- namespace **activemq::cmsutil**

7.3 src/main/activemq/cmsutil/CmsAccessor.h File Reference

```
#include <cms/ConnectionFactory.h>
#include <activemq/cmsutil/ResourceLifecycleManager.h>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::cmsutil::CmsAccessor**

  *Base class for **activemq.cmsutil.CmsTemplate** (p. 986) and other CMS-accessing gateway helpers, defining common properties such as the CMS **cms.ConnectionFactory** (p. 1108) to operate on.*

Namespaces

- namespace **activemq**

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- namespace **activemq::cmsutil**

7.4 src/main/activemq/cmsutil/CmsDestinationAccessor.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/cmsutil/CmsAccessor.h>
#include <activemq/cmsutil/DynamicDestinationResolver.h>
```

Data Structures

- class **activemq::cmsutil::CmsDestinationAccessor**

  Extends the `CmsAccessor` *(p. 965) to add support for resolving destination names.*

Namespaces

- namespace **activemq**

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- namespace **activemq::cmsutil**

7.5 src/main/activemq/cmsutil/CmsTemplate.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/cmsutil/CmsDestinationAccessor.h>
#include <activemq/cmsutil/SessionCallback.h>
#include <activemq/cmsutil/ProducerCallback.h>
#include <activemq/cmsutil/SessionPool.h>
#include <cms/ConnectionFactory.h>
#include <cms/DeliveryMode.h>
#include <string>
```

Data Structures

- class **activemq::cmsutil::CmsTemplate**

  CmsTemplate (p. *986*) *simplifies performing synchronous CMS operations.*

- class **activemq::cmsutil::CmsTemplate::ProducerExecutor**
- class **activemq::cmsutil::CmsTemplate::ResolveProducerExecutor**
- class **activemq::cmsutil::CmsTemplate::SendExecutor**
- class **activemq::cmsutil::CmsTemplate::ReceiveExecutor**
- class **activemq::cmsutil::CmsTemplate::ResolveReceiveExecutor**

Namespaces

- namespace **activemq**

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- namespace **activemq::cmsutil**

7.6 src/main/activemq/cmsutil/DestinationResolver.h File Reference

```
#include <activemq/util/Config.h>
#include <string>
```

Data Structures

- class **activemq::cmsutil::DestinationResolver**

  Resolves a CMS destination name to a `Destination`.

Namespaces

- namespace **cms**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq**

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- namespace **activemq::cmsutil**

7.7 src/main/activemq/cmsutil/DynamicDestinationResolver.h File Reference

```
#include <activemq/cmsutil/DestinationResolver.h>
#include <cms/Session.h>
#include <decaf/util/StlMap.h>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::cmsutil::DynamicDestinationResolver**

  Resolves a CMS destination name to a `Destination`*.*

- class **activemq::cmsutil::DynamicDestinationResolver::SessionResolver**

  Manages maps of names to topics and queues for a single session.

Namespaces

- namespace **activemq**

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- namespace **activemq::cmsutil**

7.8 src/main/activemq/cmsutil/MessageCreator.h File Reference

```
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::cmsutil::MessageCreator**

  Creates the user-defined message to be sent by the `CmsTemplate` (p. *986*).

Namespaces

- namespace **cms**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::cmsutil**

7.9 src/main/activemq/cmsutil/PooledSession.h File Reference

```
#include <cms/Session.h>
#include <decaf/util/StlMap.h>
#include <activemq/cmsutil/CachedProducer.h>
#include <activemq/cmsutil/CachedConsumer.h>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::cmsutil::PooledSession**

  A pooled session object that wraps around a delegate session.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::cmsutil**

7.10 src/main/activemq/cmsutil/ProducerCallback.h File Reference

```
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::cmsutil::ProducerCallback**

  Callback for sending a message to a CMS destination.

Namespaces

- namespace **cms**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::cmsutil**

7.11 src/main/activemq/cmsutil/ResourceLifecycleManager.h File Reference

```
#include <cms/Connection.h>
#include <cms/Session.h>
#include <cms/Destination.h>
#include <cms/MessageProducer.h>
#include <cms/MessageConsumer.h>
#include <activemq/util/Config.h>
#include <decaf/util/LinkedList.h>
```

Data Structures

- class **activemq::cmsutil::ResourceLifecycleManager**

  Manages the lifecycle of a set of CMS resources.

Namespaces

- namespace **activemq**

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- namespace **activemq::cmsutil**

7.12 src/main/decaf/internal/util/ResourceLifecycleManager.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/StlSet.h>
#include <decaf/internal/util/Resource.h>
```

Data Structures

- class **decaf::internal::util::ResourceLifecycleManager**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**

7.13 src/main/activemq/cmsutil/SessionCallback.h File Reference

```
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::cmsutil::SessionCallback**

  Callback for executing any number of operations on a provided CMS Session.

Namespaces

- namespace **cms**

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- namespace **activemq**

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- namespace **activemq::cmsutil**

7.14 src/main/activemq/cmsutil/SessionPool.h File Reference

```
#include <activemq/cmsutil/PooledSession.h>
#include <decaf/util/concurrent/Mutex.h>
#include <cms/Connection.h>
#include <list>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::cmsutil::SessionPool**

  A pool of CMS sessions from the same connection and with the same acknowledge mode.

Namespaces

- namespace **activemq**

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- namespace **activemq::cmsutil**

7.15 src/main/activemq/commands/ActiveMQBlobMessage.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQMessageTemplate.h>
#include <cms/Message.h>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQBlobMessage**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.16 src/main/activemq/commands/ActiveMQBytesMessage.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQMessageTemplate.h>
#include <decaf/io/ByteArrayOutputStream.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <cms/BytesMessage.h>
#include <vector>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQBytesMessage**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.17 src/main/activemq/commands/ActiveMQDestination.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/util/ActiveMQProperties.h>
#include <cms/Destination.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/Comparable.h>
#include <decaf/util/ArrayList.h>
#include <vector>
#include <string>
#include <map>
```

Data Structures

- class **activemq::commands::ActiveMQDestination**
- struct **activemq::commands::ActiveMQDestination::DestinationFilter**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.18 src/main/activemq/commands/ActiveMQMapMessage.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQMessageTemplate.h>
#include <activemq/util/PrimitiveMap.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <cms/MapMessage.h>
#include <vector>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQMapMessage**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.19 src/main/activemq/commands/ActiveMQMessage.h File Reference

```
#include <cms/Message.h>
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQMessageTemplate.h>
```

Data Structures

- class **activemq::commands::ActiveMQMessage**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.20 src/main/activemq/commands/ActiveMQMessageTemplate.h File Reference

```
#include <cms/DeliveryMode.h>
#include <activemq/util/Config.h>
#include <activemq/commands/Message.h>
#include <activemq/core/ActiveMQAckHandler.h>
#include <activemq/core/ActiveMQConnection.h>
#include <activemq/wireformat/openwire/utils/MessagePropertyInterceptor.h>
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <activemq/util/CMSExceptionSupport.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <cms/IllegalStateException.h>
#include <cms/MessageFormatException.h>
#include <cms/MessageNotReadableException.h>
#include <cms/MessageNotWriteableException.h>
```

Data Structures

- class **activemq::commands::ActiveMQMessageTemplate< T >**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.21 src/main/activemq/commands/ActiveMQObjectMessage.h File Reference

```
#include <activemq/commands/ActiveMQMessageTemplate.h>
#include <cms/ObjectMessage.h>
#include <activemq/util/Config.h>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQObjectMessage**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.22 src/main/activemq/commands/ActiveMQQueue.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <decaf/lang/Exception.h>
#include <cms/Queue.h>
#include <vector>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQQueue**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.23 src/main/activemq/commands/ActiveMQStreamMessage.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQMessage.h>
#include <activemq/commands/ActiveMQMessageTemplate.h>
#include <cms/StreamMessage.h>
#include <cms/MessageNotWriteableException.h>
#include <cms/MessageNotReadableException.h>
#include <cms/MessageFormatException.h>
#include <cms/MessageEOFException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQStreamMessage**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.24 src/main/activemq/commands/ActiveMQTempDestination.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <cms/Closeable.h>
#include <vector>
#include <string>
```

Data Structures

- class **activemq::commands::ActiveMQTempDestination**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**
- namespace **activemq::commands**

7.25 src/main/activemq/commands/ActiveMQTempQueue.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQTempDestination.h>
#include <cms/TemporaryQueue.h>
#include <vector>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQTempQueue**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.26 src/main/activemq/commands/ActiveMQTempTopic.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQTempDestination.h>
#include <cms/TemporaryTopic.h>
#include <vector>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQTempTopic**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.27 src/main/activemq/commands/ActiveMQTextMessage.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQMessageTemplate.h>
#include <cms/TextMessage.h>
#include <vector>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQTextMessage**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.28 src/main/activemq/commands/ActiveMQTopic.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <decaf/lang/Exception.h>
#include <cms/Topic.h>
#include <vector>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::commands::ActiveMQTopic**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.29 src/main/activemq/commands/BaseCommand.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/Command.h>
```

Data Structures

- class **activemq::commands::BaseCommand**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.30 src/main/activemq/commands/BaseDataStructure.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <string>
#include <sstream>
```

Data Structures

- class **activemq::commands::BaseDataStructure**

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::commands**

7.31 src/main/activemq/commands/BooleanExpression.h File Reference

`#include <activemq/commands/BaseDataStructure.h>`

`#include <activemq/util/Config.h>`

Data Structures

- class **activemq::commands::BooleanExpression**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::commands**

7.32 src/main/activemq/commands/BrokerError.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::BrokerError**

  This class represents an Exception sent from the Broker.

- struct **activemq::commands::BrokerError::StackTraceElement**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::commands**

7.33 src/main/activemq/commands/BrokerId.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::BrokerId**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.34 src/main/activemq/commands/BrokerInfo.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/BrokerId.h>
#include <activemq/commands/BrokerInfo.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::BrokerInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.35 src/main/activemq/commands/Command.h File Reference

```
#include <string>
#include <activemq/util/Config.h>
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::commands::Command**

Namespaces

- namespace **activemq**

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- namespace **activemq::state**
- namespace **activemq::commands**

7.36 src/main/activemq/commands/ConnectionControl.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ConnectionControl**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.37 src/main/activemq/commands/ConnectionError.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/BrokerError.h>
#include <activemq/commands/ConnectionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ConnectionError**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.38 src/main/activemq/commands/ConnectionId.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ConnectionId**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.39 src/main/activemq/commands/ConnectionInfo.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/BrokerId.h>
#include <activemq/commands/ConnectionId.h>
#include <activemq/commands/RemoveInfo.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ConnectionInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.40 src/main/activemq/commands/ConsumerControl.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ConsumerControl**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.41 src/main/activemq/commands/ConsumerId.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/commands/SessionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ConsumerId**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.42 src/main/activemq/commands/ConsumerInfo.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/BooleanExpression.h>
#include <activemq/commands/BrokerId.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/RemoveInfo.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ConsumerInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.43 src/main/activemq/commands/ControlCommand.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ControlCommand**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.44 src/main/activemq/commands/DataArrayResponse.h File Reference

```
#include <activemq/commands/DataStructure.h>
#include <activemq/commands/Response.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::DataArrayResponse**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.45 src/main/activemq/commands/DataResponse.h File Reference

```
#include <activemq/commands/DataStructure.h>
#include <activemq/commands/Response.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::DataResponse**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.46 src/main/activemq/commands/DataStructure.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/wireformat/MarshalAware.h>
```

Data Structures

- class **activemq::commands::DataStructure**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.47 src/main/activemq/commands/DestinationInfo.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/BrokerId.h>
#include <activemq/commands/ConnectionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::DestinationInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.48 src/main/activemq/commands/DiscoveryEvent.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::DiscoveryEvent**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.49 src/main/activemq/commands/ExceptionResponse.h File Reference

```
#include <activemq/commands/BrokerError.h>
#include <activemq/commands/Response.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ExceptionResponse**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.50 src/main/activemq/commands/FlushCommand.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::FlushCommand**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.51 src/main/activemq/commands/IntegerResponse.h File Reference

```
#include <activemq/commands/Response.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::IntegerResponse**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.52 src/main/activemq/commands/JournalQueueAck.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/commands/MessageAck.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::JournalQueueAck**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.53 src/main/activemq/commands/JournalTopicAck.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/commands/MessageId.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::JournalTopicAck**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.54 src/main/activemq/commands/JournalTrace.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::JournalTrace**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.55 src/main/activemq/commands/JournalTransaction.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::JournalTransaction**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.56 src/main/activemq/commands/KeepAliveInfo.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::KeepAliveInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.57 src/main/activemq/commands/LastPartialCommand.h File Reference

```
#include <activemq/commands/PartialCommand.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::LastPartialCommand**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.58 src/main/activemq/commands/LocalTransactionId.h File Reference

```
#include <activemq/commands/ConnectionId.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::LocalTransactionId**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.59 src/main/activemq/commands/Message.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/BrokerId.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/commands/MessageId.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/core/ActiveMQAckHandler.h>
#include <activemq/util/Config.h>
#include <activemq/util/PrimitiveMap.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::Message**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**
- namespace **activemq::commands**

7.60 src/main/cms/Message.h File Reference

```
#include <cms/Config.h>
#include <cms/Destination.h>
#include <cms/DeliveryMode.h>
#include <cms/CMSException.h>
#include <cms/IllegalStateException.h>
#include <cms/MessageFormatException.h>
#include <cms/MessageNotWriteableException.h>
```

Data Structures

- class **cms::Message**

  Root of all messages.

Namespaces

- namespace **cms**

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7.61 src/main/activemq/commands/MessageAck.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/BrokerError.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/Message.h>
#include <activemq/commands/MessageDispatch.h>
#include <activemq/commands/MessageId.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::MessageAck**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.62 src/main/activemq/commands/MessageDispatch.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/Message.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Exception.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::MessageDispatch**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.63 src/main/activemq/commands/MessageDispatchNotification.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/MessageId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::MessageDispatchNotification**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.64 src/main/activemq/commands/MessageId.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/commands/ProducerInfo.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::MessageId**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.65 src/main/activemq/commands/MessagePull.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/MessageId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::MessagePull**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.66 src/main/activemq/commands/NetworkBridgeFilter.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/commands/BrokerId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::NetworkBridgeFilter**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.67 src/main/activemq/commands/PartialCommand.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::PartialCommand**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.68 src/main/activemq/commands/ProducerAck.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ProducerAck**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.69 src/main/activemq/commands/ProducerId.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/commands/SessionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ProducerId**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.70 src/main/activemq/commands/ProducerInfo.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/BrokerId.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/commands/RemoveInfo.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ProducerInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.71 src/main/activemq/commands/RemoveInfo.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::RemoveInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.72 src/main/activemq/commands/RemoveSubscriptionInfo.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/ConnectionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::RemoveSubscriptionInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.73 src/main/activemq/commands/ReplayCommand.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ReplayCommand**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.74 src/main/activemq/commands/Response.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::Response**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.75 src/main/activemq/commands/SessionId.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/commands/ConnectionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::SessionId**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.76 src/main/activemq/commands/SessionInfo.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/RemoveInfo.h>
#include <activemq/commands/SessionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::SessionInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.77 src/main/activemq/commands/ShutdownInfo.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::ShutdownInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.78 src/main/activemq/commands/SubscriptionInfo.h File Reference

```
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::SubscriptionInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.79 src/main/activemq/commands/TransactionId.h File Reference

```
#include <activemq/commands/BaseDataStructure.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::TransactionId**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.80 src/main/activemq/commands/TransactionInfo.h File Reference

```
#include <activemq/commands/BaseCommand.h>
#include <activemq/commands/ConnectionId.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::TransactionInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.81 src/main/activemq/commands/WireFormatInfo.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/BaseCommand.h>
#include <activemq/util/PrimitiveMap.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <vector>
```

Data Structures

- class **activemq::commands::WireFormatInfo**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.82 src/main/activemq/commands/XATransactionId.h File Reference

```
#include <activemq/commands/TransactionId.h>
#include <activemq/util/Config.h>
#include <cms/Xid.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::commands::XATransactionId**

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**

7.83 src/main/activemq/core/ActiveMQAckHandler.h File Reference

`#include <activemq/util/Config.h>`

Data Structures

- class **activemq::core::ActiveMQAckHandler**

  Interface class that is used to give CMS Messages an interface to Ack themselves with.

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**
- namespace **activemq::core**

7.84 src/main/activemq/core/ActiveMQConnection.h File Reference

```
#include <cms/Connection.h>
#include <activemq/util/Config.h>
#include <activemq/core/Dispatcher.h>
#include <activemq/commands/ActiveMQTempDestination.h>
#include <activemq/commands/ConnectionInfo.h>
#include <activemq/commands/ConsumerInfo.h>
#include <activemq/commands/SessionId.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/transport/Transport.h>
#include <activemq/transport/TransportListener.h>
#include <activemq/threads/Scheduler.h>
#include <activemq/core/kernels/ActiveMQProducerKernel.h>
#include <activemq/core/kernels/ActiveMQSessionKernel.h>
#include <decaf/util/Properties.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <decaf/util/concurrent/ExecutorService.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::core::ActiveMQConnection**

  Concrete connection used for all connectors to the ActiveMQ broker.

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.85 src/main/activemq/core/ActiveMQConnectionFactory.h File Reference

```
#include <activemq/util/Config.h>
#include <cms/ConnectionFactory.h>
#include <cms/Connection.h>
#include <activemq/transport/Transport.h>
#include <decaf/net/URI.h>
#include <decaf/util/Properties.h>
```

Data Structures

- class **activemq::core::ActiveMQConnectionFactory**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.86 src/main/activemq/core/ActiveMQConnectionMetaData.h File Reference

`#include <activemq/util/Config.h>`

`#include <cms/ConnectionMetaData.h>`

Data Structures

- class **activemq::core::ActiveMQConnectionMetaData**

  This class houses all the various settings and information that is used by an instance of an ***ActiveMQConnection*** *(p. 232) class.*

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.87 src/main/activemq/core/ActiveMQConstants.h File Reference

```
#include <string>
#include <map>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::core::ActiveMQConstants**

  Class holding constant values for various ActiveMQ specific things Each constant is defined as an enumeration and has functions that convert back an forth between string and enum values.

- class **activemq::core::ActiveMQConstants::StaticInitializer**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.88 src/main/activemq/core/ActiveMQConsumer.h File Reference

```
#include <cms/MessageConsumer.h>
#include <cms/MessageListener.h>
#include <cms/Message.h>
#include <cms/CMSException.h>
#include <activemq/util/Config.h>
#include <activemq/core/kernels/ActiveMQConsumerKernel.h>
#include <activemq/commands/ConsumerInfo.h>
#include <activemq/core/RedeliveryPolicy.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::core::ActiveMQConsumer**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.89 src/main/activemq/core/ActiveMQMessageAudit.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/MessageId.h>
#include <activemq/commands/ProducerId.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::core::ActiveMQMessageAudit**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.90 src/main/activemq/core/ActiveMQProducer.h File Reference

```
#include <cms/MessageProducer.h>
#include <cms/Message.h>
#include <cms/Destination.h>
#include <cms/DeliveryMode.h>
#include <activemq/util/Config.h>
#include <activemq/commands/ProducerInfo.h>
#include <activemq/core/kernels/ActiveMQProducerKernel.h>
```

Data Structures

- class **activemq::core::ActiveMQProducer**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.91 src/main/activemq/core/ActiveMQQueueBrowser.h File Reference

```
#include <activemq/util/Config.h>
#include <cms/Queue.h>
#include <cms/QueueBrowser.h>
#include <cms/MessageEnumeration.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/ActiveMQDestination.h>
#include <activemq/core/kernels/ActiveMQSessionKernel.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <string>
```

Data Structures

- class **activemq::core::ActiveMQQueueBrowser**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**
- namespace **activemq::core::kernels**

7.92 src/main/activemq/core/ActiveMQSession.h File Reference

```
#include <cms/Session.h>
#include <cms/ExceptionListener.h>
#include <activemq/util/Config.h>
#include <activemq/core/kernels/ActiveMQConsumerKernel.h>
#include <activemq/core/kernels/ActiveMQProducerKernel.h>
#include <activemq/core/kernels/ActiveMQSessionKernel.h>
#include <activemq/commands/SessionInfo.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::core::ActiveMQSession**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.93 src/main/activemq/core/ActiveMQSessionExecutor.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/core/MessageDispatchChannel.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/MessageDispatch.h>
#include <activemq/threads/Task.h>
#include <activemq/threads/TaskRunner.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::core::ActiveMQSessionExecutor**

  Delegate dispatcher for a single session.

Namespaces

- namespace **activemq**

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- namespace **activemq::core**
- namespace **activemq::core::kernels**

7.94 src/main/activemq/core/ActiveMQTransactionContext.h File Reference

```
#include <memory>
#include <cms/Message.h>
#include <cms/XAResource.h>
#include <cms/CMSException.h>
#include <cms/XAException.h>
#include <activemq/util/Config.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/commands/LocalTransactionId.h>
#include <activemq/core/Synchronization.h>
#include <activemq/util/LongSequenceGenerator.h>
#include <decaf/lang/exceptions/InvalidStateException.h>
#include <decaf/util/StlSet.h>
#include <decaf/util/Properties.h>
#include <decaf/util/concurrent/Mutex.h>
```

Data Structures

- class **activemq::core::ActiveMQTransactionContext**

  Transaction Management class, hold messages that are to be redelivered upon a request to rollback.

Namespaces

- namespace **activemq**

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- namespace **activemq::core**
- namespace **activemq::core::kernels**

7.95 src/main/activemq/core/ActiveMQXAConnection.h File Reference

```
#include <activemq/util/Config.h>
#include <cms/XAConnection.h>
#include <activemq/core/ActiveMQConnection.h>
```

Data Structures

- class **activemq::core::ActiveMQXAConnection**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.96 src/main/activemq/core/ActiveMQXAConnectionFactory.h File Reference

```
#include <activemq/util/Config.h>
#include <cms/XAConnectionFactory.h>
#include <activemq/core/ActiveMQConnectionFactory.h>
#include <decaf/net/URI.h>
#include <decaf/util/Properties.h>
```

Data Structures

- class **activemq::core::ActiveMQXAConnectionFactory**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.97 src/main/activemq/core/ActiveMQXASession.h File Reference

```
#include <activemq/util/Config.h>
#include <cms/XASession.h>
#include <activemq/core/ActiveMQSession.h>
#include <activemq/core/kernels/ActiveMQXASessionKernel.h>
```

Data Structures

- class **activemq::core::ActiveMQXASession**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.98 src/main/activemq/core/AdvisoryConsumer.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/core/Dispatcher.h>
#include <activemq/core/ActiveMQConnection.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/DestinationInfo.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::core::AdvisoryConsumer**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.99 src/main/activemq/core/ConnectionAudit.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/Message.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::core::ConnectionAudit**

  Provides the Auditing functionality used by Connections to attempt to filter out duplicate Messages.

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.100 src/main/activemq/core/DispatchData.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/Message.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::core::DispatchData**

  Simple POCO that contains the information necessary to route a message to a specified consumer.

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.101 src/main/activemq/core/Dispatcher.h File Reference

```
#include <activemq/commands/MessageDispatch.h>
#include <activemq/util/Config.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::core::Dispatcher**

  Interface for an object responsible for dispatching messages to consumers.

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.102 src/main/activemq/core/FifoMessageDispatchChannel.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/core/MessageDispatchChannel.h>
#include <decaf/util/LinkedList.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::core::FifoMessageDispatchChannel**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.103 src/main/activemq/core/kernels/ActiveMQConsumerKernel.h File Reference

```
#include <cms/MessageConsumer.h>
#include <cms/MessageListener.h>
#include <cms/MessageAvailableListener.h>
#include <cms/Message.h>
#include <cms/CMSException.h>
#include <activemq/util/Config.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/commands/ConsumerInfo.h>
#include <activemq/commands/MessageAck.h>
#include <activemq/commands/MessageDispatch.h>
#include <activemq/core/Dispatcher.h>
#include <activemq/core/RedeliveryPolicy.h>
#include <activemq/core/MessageDispatchChannel.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/concurrent/Mutex.h>
```

Data Structures

- class **activemq::core::kernels::ActiveMQConsumerKernel**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**
- namespace **activemq::core::kernels**

7.104 src/main/activemq/core/kernels/ActiveMQProducerKernel.h File Reference

```
#include <cms/MessageProducer.h>
#include <cms/Message.h>
#include <cms/Destination.h>
#include <cms/DeliveryMode.h>
#include <cms/MessageTransformer.h>
#include <activemq/util/Config.h>
#include <activemq/util/MemoryUsage.h>
#include <activemq/util/LongSequenceGenerator.h>
#include <activemq/commands/ProducerInfo.h>
#include <activemq/commands/ProducerAck.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <memory>
```

Data Structures

- class **activemq::core::kernels::ActiveMQProducerKernel**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**
- namespace **activemq::core::kernels**

7.105 src/main/activemq/core/kernels/ActiveMQSessionKernel.h File Reference

```
#include <cms/Session.h>
#include <cms/ExceptionListener.h>
#include <activemq/util/Config.h>
#include <activemq/util/Usage.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/core/ActiveMQTransactionContext.h>
#include <activemq/core/kernels/ActiveMQConsumerKernel.h>
#include <activemq/core/kernels/ActiveMQProducerKernel.h>
#include <activemq/commands/ActiveMQTempDestination.h>
#include <activemq/commands/Response.h>
#include <activemq/commands/MessageAck.h>
#include <activemq/commands/SessionInfo.h>
#include <activemq/commands/ConsumerInfo.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/core/Dispatcher.h>
#include <activemq/core/MessageDispatchChannel.h>
#include <activemq/util/LongSequenceGenerator.h>
#include <activemq/threads/Scheduler.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/Properties.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::core::kernels::ActiveMQSessionKernel**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

- namespace **activemq::core::kernels**

7.106 src/main/activemq/core/kernels/ActiveMQXASessionKernel.h File Reference

```
#include <activemq/util/Config.h>
#include <cms/XASession.h>
#include <activemq/core/kernels/ActiveMQSessionKernel.h>
```

Data Structures

- class **activemq::core::kernels::ActiveMQXASessionKernel**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**
- namespace **activemq::core::kernels**

7.107 src/main/activemq/core/MessageDispatchChannel.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/MessageDispatch.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::core::MessageDispatchChannel**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.108 src/main/activemq/core/policies/DefaultPrefetchPolicy.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/core/PrefetchPolicy.h>
```

Data Structures

- class **activemq::core::policies::DefaultPrefetchPolicy**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**
- namespace **activemq::core::policies**

7.109 src/main/activemq/core/policies/DefaultRedeliveryPolicy.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/core/RedeliveryPolicy.h>
```

Data Structures

- class **activemq::core::policies::DefaultRedeliveryPolicy**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::core**
- namespace **activemq::core::policies**

7.110 src/main/activemq/core/PrefetchPolicy.h File Reference

```
#include <activemq/util/Config.h>
```

```
#include <decaf/util/Properties.h>
```

Data Structures

- class **activemq::core::PrefetchPolicy**

  Interface for a Policy object that controls message Prefetching on various destination types in ActiveMQ-CPP.

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.111 src/main/activemq/core/RedeliveryPolicy.h File Reference

`#include <activemq/util/Config.h>`

`#include <decaf/util/Properties.h>`

Data Structures

- class **activemq::core::RedeliveryPolicy**

  *Interface for a **RedeliveryPolicy** (p. 2527) object that controls how message Redelivery is handled in ActiveMQ-CPP when a transaction is rolled back.*

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.112 src/main/activemq/core/SimplePriorityMessageDispatchChannel.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/core/MessageDispatchChannel.h>
#include <decaf/util/LinkedList.h>
#include <decaf/lang/ArrayPointer.h>
#include <decaf/util/concurrent/Mutex.h>
```

Data Structures

- class **activemq::core::SimplePriorityMessageDispatchChannel**

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.113 src/main/activemq/core/Synchronization.h File Reference

```
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::core::Synchronization**

  Transacted Object ***Synchronization*** *(p. 2952), used to sync the events of a Transaction with the items in the Transaction.*

Namespaces

- namespace **activemq**

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- namespace **activemq::core**

7.114 src/main/activemq/exceptions/ActiveMQException.h File Reference

```
#include <activemq/util/Config.h>
#include <cms/CMSException.h>
#include <decaf/lang/Exception.h>
#include <activemq/exceptions/ExceptionDefines.h>
```

Data Structures

- class **activemq::exceptions::ActiveMQException**

Namespaces

- namespace **activemq**

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- namespace **activemq::exceptions**

7.115 src/main/activemq/exceptions/BrokerException.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/commands/BrokerError.h>
```

Data Structures

- class **activemq::exceptions::BrokerException**

Namespaces

- namespace **activemq**

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- namespace **activemq::exceptions**

7.116 src/main/activemq/exceptions/ConnectionFailedException.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/exceptions/ActiveMQException.h>
```

Data Structures

- class **activemq::exceptions::ConnectionFailedException**

Namespaces

- namespace **activemq**

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- namespace **activemq::exceptions**

7.117 src/main/activemq/exceptions/ExceptionDefines.h File Reference

Defines

- #define **AMQ_CATCH_RETHROW**(type)

  Macro for catching and re-throwing an exception of a given type.

- #define **AMQ_CATCH_EXCEPTION_CONVERT**(sourceType, targetType)

  Macro for catching an exception of one type and then re-throwing as another type.

- #define **AMQ_CATCHALL_THROW**(type)

  A catch-all that throws a known exception.

- #define **AMQ_CATCHALL_NOTHROW**()

  A catch-all that does not throw an exception, one use would be to catch any exception in a destructor and mark it, but not throw so that cleanup would continue as normal.

- #define **AMQ_CATCH_NOTHROW**(type)

  Macro for catching and re-throwing an exception of a given type.

7.117.1 Define Documentation

7.117.1.1 #define AMQ_CATCH_EXCEPTION_CONVERT(sourceType, targetType)

Value:

```
catch( sourceType& ex ){ \
        targetType target( ex ); \
        target.setMark( __FILE__, __LINE__ ); \
        throw target; \
    }
```

Macro for catching an exception of one type and then re-throwing as another type.

Parameters:

sourceType the type of the exception to be caught.

targetType the type of the exception to be thrown.

Referenced by activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalObjectArray(), activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectArray1(), and activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectArray2().

7.117.1.2 #define AMQ_CATCH_NOTHROW(type)

Value:

```
catch( type& ex ){ \
        ex.setMark( __FILE__, __LINE__ ); \
    }
```

Macro for catching and re-throwing an exception of a given type.

Parameters:

type The type of the exception to throw (e.g. ActiveMQException).

7.117.1.3 #define AMQ_CATCH_RETHROW(type)

Value:

```
catch( type& ex ){ \
        ex.setMark( __FILE__, __LINE__ ); \
        throw; \
    }
```

Macro for catching and re-throwing an exception of a given type.

Parameters:

type The type of the exception to throw (e.g. ActiveMQException).

Referenced by activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalObjectArray(), activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectArray1(), and activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectArray2().

7.117.1.4 #define AMQ_CATCHALL_NOTHROW()

Value:

```
catch( ... ){ \
        activemq::exceptions::ActiveMQException ex( __FILE__, __LINE__, \
            "caught unknown exception, not rethrowing" ); \
    }
```

A catch-all that does not throw an exception, one use would be to catch any exception in a destructor and mark it, but not throw so that cleanup would continue as normal.

7.117.1.5 #define AMQ_CATCHALL_THROW(type)

Value:

```
catch( ... ){ \
        type ex( __FILE__, __LINE__, \
            "caught unknown exception" ); \
        throw ex; \
    }
```

A catch-all that throws a known exception.

Parameters:

type the type of exception to be thrown.

Referenced by activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::looseMarshalObjectArray(),
activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectArray1(),
and activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller::tightMarshalObjectArray2().

7.118 src/main/decaf/lang/exceptions/ExceptionDefines.h File Reference

Defines

- #define **DECAF_CATCH_RETHROW**(type)
  Macro for catching and rethrowing an exception of a given type.
- #define **DECAF_CATCH_EXCEPTION_CONVERT**(sourceType, targetType)
  Macro for catching an exception of one type and then rethrowing as another type.
- #define **DECAF_CATCHALL_THROW**(type)
  A catch-all that throws a known exception.
- #define **DECAF_CATCHALL_NOTHROW**()
  A catch-all that does not throw an exception, one use would be to catch any exception in a destructor and mark it, but not throw so that cleanup would continue as normal.
- #define **DECAF_CATCH_NOTHROW**(type)
  Macro for catching and rethrowing an exception of a given type.

7.118.1 Define Documentation

7.118.1.1 #define DECAF_CATCH_EXCEPTION_CONVERT(sourceType, targetType)

Value:

```
catch( sourceType& ex ){ \
        targetType target( ex.clone() ); \
        target.setMark( __FILE__, __LINE__ ); \
        throw target; \
    }
```

Macro for catching an exception of one type and then rethrowing as another type.

Parameters:

sourceType the type of the exception to be caught.

targetType the type of the exception to be thrown.

Referenced by decaf::util::PriorityQueue< E >::add().

7.118.1.2 #define DECAF_CATCH_NOTHROW(type)

Value:

```
catch( type& ex ){ \
        ex.setMark( __FILE__, __LINE__ ); \
    }
```

Macro for catching and rethrowing an exception of a given type.

Parameters:

type The type of the exception to throw (e.g. Exception).

7.118.1.3 #define DECAF_CATCH_RETHROW(type)

Value:

```
catch( type& ex ){ \
        ex.setMark( __FILE__, __LINE__ ); \
        throw; \
    }
```

Macro for catching and rethrowing an exception of a given type.

Parameters:

type The type of the exception to throw (e.g. Exception).

Referenced by decaf::util::PriorityQueue< E >::add(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::LinkedBlockingQueue(), and decaf::util::concurrent::ExecutorService::submit().

7.118.1.4 #define DECAF_CATCHALL_NOTHROW()

Value:

```
catch( ... ){ \
        lang::Exception ex( __FILE__, __LINE__, \
            "caught unknown exception, not rethrowing" ); \
    }
```

A catch-all that does not throw an exception, one use would be to catch any exception in a destructor and mark it, but not throw so that cleanup would continue as normal.

Referenced by decaf::util::ArrayList< Pointer< ActiveMQDestination > >::~ArrayList().

7.118.1.5 #define DECAF_CATCHALL_THROW(type)

Value:

```
catch( ... ){ \
        type ex( __FILE__, __LINE__, \
            "caught unknown exception" ); \
        throw ex; \
    }
```

A catch-all that throws a known exception.

Parameters:

type the type of exception to be thrown.

Referenced by decaf::util::PriorityQueue< E >::add(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::LinkedBlockingQueue(), and decaf::util::concurrent::ExecutorService::submit().

7.119 src/main/activemq/io/LoggingInputStream.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/io/FilterInputStream.h>
#include <decaf/util/logging/LoggerDefines.h>
#include <decaf/lang/exceptions/NullPointerException.h>
```

Data Structures

- class **activemq::io::LoggingInputStream**

Namespaces

- namespace **activemq**

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- namespace **activemq::io**

7.120 src/main/activemq/io/LoggingOutputStream.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/io/FilterOutputStream.h>
#include <decaf/util/logging/LoggerDefines.h>
```

Data Structures

- class **activemq::io::LoggingOutputStream**

  OutputStream filter that just logs the data being written.

Namespaces

- namespace **activemq**

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- namespace **activemq::io**

7.121 src/main/activemq/library/ActiveMQCPP.h File Reference

```
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::library::ActiveMQCPP**

Namespaces

- namespace **activemq**

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- namespace **activemq::library**

7.122 src/main/activemq/state/CommandVisitor.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::state::CommandVisitor**

  Interface for an Object that can visit the various Command Objects that are sent from and to this client.

Namespaces

- namespace **activemq**

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- namespace **activemq::commands**
- namespace **activemq::state**

7.123 src/main/activemq/state/CommandVisitorAdapter.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/state/CommandVisitor.h>
#include <activemq/core/ActiveMQConstants.h>
#include <activemq/commands/ConnectionInfo.h>
#include <activemq/commands/SessionInfo.h>
#include <activemq/commands/ProducerInfo.h>
#include <activemq/commands/ConsumerInfo.h>
#include <activemq/commands/ConnectionId.h>
#include <activemq/commands/SessionId.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/DestinationInfo.h>
#include <activemq/commands/RemoveSubscriptionInfo.h>
#include <activemq/commands/Message.h>
#include <activemq/commands/MessageAck.h>
#include <activemq/commands/MessagePull.h>
#include <activemq/commands/TransactionInfo.h>
#include <activemq/commands/WireFormatInfo.h>
#include <activemq/commands/ProducerAck.h>
#include <activemq/commands/MessageDispatch.h>
#include <activemq/commands/MessageDispatchNotification.h>
#include <activemq/commands/ControlCommand.h>
#include <activemq/commands/ConnectionError.h>
#include <activemq/commands/ConnectionControl.h>
#include <activemq/commands/ConsumerControl.h>
#include <activemq/commands/ShutdownInfo.h>
#include <activemq/commands/KeepAliveInfo.h>
#include <activemq/commands/FlushCommand.h>
#include <activemq/commands/BrokerError.h>
#include <activemq/commands/BrokerInfo.h>
#include <activemq/commands/RemoveInfo.h>
#include <activemq/commands/ReplayCommand.h>
#include <activemq/commands/Response.h>
```

Data Structures

- class **activemq::state::CommandVisitorAdapter**

  Default Implementation of a ***CommandVisitor*** *(*p. *1020**) that returns NULL for all calls.*

Namespaces

- namespace **activemq**

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- namespace **activemq::state**

7.124 src/main/activemq/state/ConnectionState.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ConnectionInfo.h>
#include <activemq/commands/DestinationInfo.h>
#include <activemq/commands/SessionInfo.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/commands/LocalTransactionId.h>
#include <activemq/state/ConsumerState.h>
#include <activemq/state/ProducerState.h>
#include <activemq/state/SessionState.h>
#include <activemq/state/TransactionState.h>
#include <decaf/util/StlMap.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <decaf/util/concurrent/ConcurrentStlMap.h>
#include <decaf/util/LinkedList.h>
#include <decaf/lang/Pointer.h>
#include <string>
```

Data Structures

- class **activemq::state::ConnectionState**

Namespaces

- namespace **activemq**

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- namespace **activemq::state**

7.125 src/main/activemq/state/ConnectionStateTracker.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ConnectionId.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/state/CommandVisitorAdapter.h>
#include <activemq/state/ConnectionState.h>
#include <activemq/state/ConsumerState.h>
#include <activemq/state/ProducerState.h>
#include <activemq/state/SessionState.h>
#include <activemq/state/TransactionState.h>
#include <activemq/state/Tracked.h>
#include <activemq/transport/Transport.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::state::ConnectionStateTracker**

Namespaces

- namespace **activemq**

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- namespace **activemq::state**

7.126 src/main/activemq/state/ConsumerState.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ConsumerInfo.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::state::ConsumerState**

Namespaces

- namespace **activemq**

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- namespace **activemq::state**

7.127 src/main/activemq/state/ProducerState.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/ProducerInfo.h>
#include <decaf/lang/Pointer.h>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::state::ProducerState**

Namespaces

- namespace **activemq**

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- namespace **activemq::state**

7.128 src/main/activemq/state/SessionState.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/SessionInfo.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/state/ConsumerState.h>
#include <activemq/state/ProducerState.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <decaf/util/concurrent/ConcurrentStlMap.h>
#include <string>
```

Data Structures

- class **activemq::state::SessionState**

Namespaces

- namespace **activemq**

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- namespace **activemq::state**

7.129 src/main/activemq/state/Tracked.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/Response.h>
#include <decaf/lang/Runnable.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::state::Tracked**

Namespaces

- namespace **activemq**

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- namespace **activemq::state**

7.130 src/main/activemq/state/TransactionState.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/Command.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/commands/TransactionId.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/LinkedList.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <decaf/util/concurrent/ConcurrentStlMap.h>
#include <string>
#include <memory>
```

Data Structures

- class **activemq::state::TransactionState**

Namespaces

- namespace **activemq**

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- namespace **activemq::state**

7.131 src/main/activemq/threads/CompositeTask.h File Reference

`#include <activemq/util/Config.h>`

`#include <activemq/threads/Task.h>`

Data Structures

- class **activemq::threads::CompositeTask**

  Represents a single task that can be part of a set of Tasks that are contained in a ***CompositeTaskRunner*** *(p. 1040).*

Namespaces

- namespace **activemq**

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- namespace **activemq::threads**

7.132 src/main/activemq/threads/CompositeTaskRunner.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/threads/TaskRunner.h>
#include <activemq/threads/CompositeTask.h>
#include <decaf/util/StlSet.h>
#include <decaf/util/LinkedList.h>
#include <decaf/lang/Thread.h>
#include <decaf/lang/Runnable.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::threads::CompositeTaskRunner**

  *A **Task** (p. 2973) Runner that can contain one or more CompositeTasks that are each checked for pending work and run if any is present in the order that the tasks were added.*

Namespaces

- namespace **activemq**

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- namespace **activemq::threads**

7.133 src/main/activemq/threads/DedicatedTaskRunner.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/threads/TaskRunner.h>
#include <activemq/threads/Task.h>
#include <decaf/lang/Thread.h>
#include <decaf/lang/Runnable.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::threads::DedicatedTaskRunner**

Namespaces

- namespace **activemq**

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- namespace **activemq::threads**

7.134 src/main/activemq/threads/Scheduler.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/util/ServiceSupport.h>
#include <decaf/lang/Runnable.h>
#include <decaf/util/Timer.h>
#include <decaf/util/StlMap.h>
#include <decaf/util/concurrent/Mutex.h>
#include <string>
```

Data Structures

- class **activemq::threads::Scheduler**

  Scheduler *(p. 2615) class for use in executing Runnable Tasks either periodically or one time only with optional delay.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::threads**

7.135 src/main/activemq/threads/SchedulerTimerTask.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/util/TimerTask.h>
#include <decaf/lang/Runnable.h>
```

Data Structures

- class **activemq::threads::SchedulerTimerTask**

  Extension of the Decaf TimerTask that adds a Runnable instance which is the target of this task.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::threads**

7.136 src/main/activemq/threads/Task.h File Reference

```
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::threads::Task**

  Represents a unit of work that requires one or more iterations to complete.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::threads**

7.137 src/main/activemq/threads/TaskRunner.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/threads/Task.h>
```

Data Structures

- class **activemq::threads::TaskRunner**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::threads**

7.138 src/main/activemq/transport/AbstractTransportFactory.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/Transport.h>
#include <activemq/transport/TransportFactory.h>
#include <activemq/wireformat/WireFormat.h>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/Properties.h>
```

Data Structures

- class **activemq::transport::AbstractTransportFactory**

  *Abstract implementation of the **TransportFactory** (p. 3117) interface, providing the base functionality that's common to most of the **TransportFactory** (p. 3117) instances.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**

7.139 src/main/activemq/transport/CompositeTransport.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/Transport.h>
#include <decaf/net/URI.h>
#include <decaf/util/List.h>
```

Data Structures

- class **activemq::transport::CompositeTransport**

  *A Composite **Transport** (p. 3109) is a **Transport** (p. 3109) implementation that is composed of several Transports.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**

7.140 src/main/activemq/transport/correlator/ResponseCorrelator.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/TransportFilter.h>
#include <activemq/transport/ResponseCallback.h>
#include <activemq/transport/FutureResponse.h>
#include <activemq/commands/Command.h>
#include <activemq/commands/Response.h>
#include <decaf/lang/Exception.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::transport::correlator::ResponseCorrelator**

  *This type of **transport** (p. 72) filter is responsible for correlating asynchronous responses with requests.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::correlator**

7.141 src/main/activemq/transport/DefaultTransportListener.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/TransportListener.h>
#include <activemq/commands/Command.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::transport::DefaultTransportListener**

  *A Utility class that create empty implementations for the **TransportListener** (p. 3130) interface so that a subclass only needs to override the one's its interested.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**

7.142 src/main/activemq/transport/failover/BackupTransport.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/Transport.h>
#include <activemq/transport/DefaultTransportListener.h>
#include <decaf/net/URI.h>
#include <decaf/lang/Pointer.h>
#include <memory>
```

Data Structures

- class **activemq::transport::failover::BackupTransport**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::failover**

7.143 src/main/activemq/transport/failover/BackupTransportPool.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/threads/CompositeTask.h>
#include <activemq/threads/CompositeTaskRunner.h>
#include <activemq/transport/failover/CloseTransportsTask.h>
#include <activemq/transport/failover/BackupTransport.h>
#include <activemq/transport/failover/URIPool.h>
#include <decaf/lang/Pointer.h>
#include <decaf/io/IOException.h>
#include <decaf/util/LinkedList.h>
```

Data Structures

- class **activemq::transport::failover::BackupTransportPool**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::failover**

7.144 src/main/activemq/transport/failover/CloseTransportsTask.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/threads/CompositeTask.h>
#include <activemq/transport/Transport.h>
#include <decaf/util/concurrent/LinkedBlockingQueue.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::transport::failover::CloseTransportsTask**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::failover**

7.145 src/main/activemq/transport/failover/FailoverTransport.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/Command.h>
#include <activemq/commands/ConnectionId.h>
#include <activemq/threads/TaskRunner.h>
#include <activemq/threads/CompositeTaskRunner.h>
#include <activemq/state/ConnectionStateTracker.h>
#include <activemq/transport/CompositeTransport.h>
#include <activemq/wireformat/WireFormat.h>
#include <decaf/util/List.h>
#include <decaf/util/Properties.h>
#include <decaf/net/URI.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **activemq::transport::failover::FailoverTransport**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::failover**

7.146 src/main/activemq/transport/failover/FailoverTransportFactory.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/AbstractTransportFactory.h>
#include <activemq/transport/Transport.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/wireformat/WireFormat.h>
#include <decaf/net/URI.h>
#include <decaf/util/Properties.h>
```

Data Structures

- class **activemq::transport::failover::FailoverTransportFactory**

  *Creates an instance of a **FailoverTransport** (p. 1477).*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::failover**

7.147 src/main/activemq/transport/failover/FailoverTransportListener.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/TransportListener.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::transport::failover::FailoverTransportListener**

  *Utility class used by the **Transport** (p. 3109) to perform the work of responding to events from the active **Transport** (p. 3109).*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::failover**

7.148 src/main/activemq/transport/failover/URIPool.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/net/URI.h>
#include <decaf/util/LinkedList.h>
#include <decaf/util/NoSuchElementException.h>
```

Data Structures

- class **activemq::transport::failover::URIPool**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::failover**

7.149 src/main/activemq/transport/FutureResponse.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/ResponseCallback.h>
#include <activemq/commands/Response.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <decaf/lang/Thread.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/concurrent/CountDownLatch.h>
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/io/InterruptedIOException.h>
```

Data Structures

- class **activemq::transport::FutureResponse**

  A container that holds a response object.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**

7.150 src/main/activemq/transport/inactivity/InactivityMonitor.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/TransportFilter.h>
#include <activemq/commands/Command.h>
#include <activemq/wireformat/WireFormat.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/Properties.h>
```

Data Structures

- class **activemq::transport::inactivity::InactivityMonitor**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::inactivity**

7.151 src/main/activemq/transport/inactivity/ReadChecker.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/util/TimerTask.h>
```

Data Structures

- class **activemq::transport::inactivity::ReadChecker**

  Runnable class that is used by the {.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::inactivity**

7.152 src/main/activemq/transport/inactivity/WriteChecker.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/util/TimerTask.h>
```

Data Structures

- class **activemq::transport::inactivity::WriteChecker**

  Runnable class used by the {.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::inactivity**

7.153 src/main/activemq/transport/IOTransport.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/Transport.h>
#include <activemq/transport/TransportListener.h>
#include <activemq/commands/Command.h>
#include <activemq/commands/Response.h>
#include <activemq/wireformat/WireFormat.h>
#include <decaf/lang/Runnable.h>
#include <decaf/lang/Thread.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/util/logging/LoggerDefines.h>
```

Data Structures

- class **activemq::transport::IOTransport**

  *Implementation of the **Transport** (p. 3109) interface that performs marshaling of **commands** (p. 61) to IO streams.*

Namespaces

- namespace **activemq**

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- namespace **activemq::transport**

7.154 src/main/activemq/transport/logging/LoggingTransport.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/TransportFilter.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::transport::logging::LoggingTransport**

  *A **transport** (p. 72) filter that logs **commands** (p. 61) as they are sent/received.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::logging**

7.155 src/main/activemq/transport/mock/InternalCommandListener.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/mock/ResponseBuilder.h>
#include <activemq/transport/DefaultTransportListener.h>
#include <decaf/lang/Thread.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/LinkedList.h>
#include <decaf/util/concurrent/Concurrent.h>
#include <decaf/util/concurrent/atomic/AtomicInteger.h>
#include <decaf/util/concurrent/CountDownLatch.h>
```

Data Structures

- class **activemq::transport::mock::InternalCommandListener**

  Listens for Commands sent from the ***MockTransport*** *(p. 2208).*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::mock**

7.156 src/main/activemq/transport/mock/MockTransport.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/transport/Transport.h>
#include <activemq/transport/TransportListener.h>
#include <activemq/transport/DefaultTransportListener.h>
#include <activemq/transport/mock/ResponseBuilder.h>
#include <activemq/transport/mock/InternalCommandListener.h>
#include <activemq/wireformat/WireFormat.h>
#include <decaf/lang/Thread.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/concurrent/Concurrent.h>
#include <decaf/util/concurrent/atomic/AtomicInteger.h>
#include <decaf/util/concurrent/CountDownLatch.h>
#include <cms/Message.h>
#include <map>
#include <set>
```

Data Structures

- class **activemq::transport::mock::MockTransport**

  *The **MockTransport** (p. 2208) defines a base level **Transport** (p. 3109) class that is intended to be used in place of an a regular protocol **Transport** (p. 3109) suck as TCP.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::mock**

7.157 src/main/activemq/transport/mock/MockTransportFactory.h File Reference

`#include <activemq/util/Config.h>`

`#include <activemq/transport/AbstractTransportFactory.h>`

Data Structures

- class **activemq::transport::mock::MockTransportFactory**

  Manufactures MockTransports, which are objects that read from input streams and write to output streams.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::mock**

7.158 src/main/activemq/transport/mock/ResponseBuilder.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/Command.h>
#include <activemq/commands/Response.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/LinkedList.h>
```

Data Structures

- class **activemq::transport::mock::ResponseBuilder**

  Interface for all Protocols to implement that defines the behavior of the Broker in response to messages of that protocol.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::mock**

7.159 src/main/activemq/transport/ResponseCallback.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/Response.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::transport::ResponseCallback**

  Allows an async send to complete at a later time via a Response event.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**

7.160 src/main/activemq/transport/tcp/SslTransport.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/tcp/TcpTransport.h>
```

Data Structures

- class **activemq::transport::tcp::SslTransport**

  Transport *(p. 3109) for connecting to a Broker using an SSL Socket.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::tcp**

7.161 src/main/activemq/transport/tcp/SslTransportFactory.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/tcp/TcpTransportFactory.h>
```

Data Structures

- class **activemq::transport::tcp::SslTransportFactory**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::tcp**

7.162 src/main/activemq/transport/tcp/TcpTransport.h File Reference

```
#include <activemq/io/LoggingInputStream.h>
#include <activemq/io/LoggingOutputStream.h>
#include <activemq/util/Config.h>
#include <activemq/transport/TransportFilter.h>
#include <decaf/net/Socket.h>
#include <decaf/net/URI.h>
#include <decaf/util/Properties.h>
#include <decaf/lang/Pointer.h>
#include <decaf/io/BufferedInputStream.h>
#include <decaf/io/BufferedOutputStream.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <memory>
```

Data Structures

- class **activemq::transport::tcp::TcpTransport**

  Implements a TCP/IP based ***transport*** *(p. 72) filter, this* ***transport*** *(p. 72) is meant to wrap an instance of an* ***IOTransport*** *(p. 1777).*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::tcp**

7.163 src/main/activemq/transport/tcp/TcpTransportFactory.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/AbstractTransportFactory.h>
#include <activemq/exceptions/ActiveMQException.h>
```

Data Structures

- class **activemq::transport::tcp::TcpTransportFactory**

  Factory Responsible for creating the ***TcpTransport*** *(*p. *2989**).*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**
- namespace **activemq::transport::tcp**

7.164 src/main/activemq/transport/Transport.h File Reference

```
#include <decaf/io/InputStream.h>
#include <decaf/io/OutputStream.h>
#include <decaf/io/IOException.h>
#include <decaf/io/Closeable.h>
#include <decaf/util/List.h>
#include <decaf/net/URI.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <activemq/util/Config.h>
#include <activemq/transport/ResponseCallback.h>
#include <activemq/transport/FutureResponse.h>
#include <activemq/commands/Command.h>
#include <activemq/commands/Response.h>
#include <typeinfo>
```

Data Structures

- class **activemq::transport::Transport**

  *Interface for a **transport** (p. 72) layer for command objects.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::wireformat**
- namespace **activemq::transport**

7.165 src/main/activemq/transport/TransportFactory.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/transport/Transport.h>
#include <decaf/net/URI.h>
#include <decaf/util/Properties.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::transport::TransportFactory**

  Defines the interface for Factories that create Transports or TransportFilters.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**

7.166 src/main/activemq/transport/TransportFilter.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <activemq/transport/Transport.h>
#include <activemq/commands/Command.h>
#include <activemq/transport/TransportListener.h>
#include <decaf/lang/Pointer.h>
#include <typeinfo>
```

Data Structures

- class **activemq::transport::TransportFilter**

  *A filter on the **transport** (p. 72) layer.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**

7.167 src/main/activemq/transport/TransportListener.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/Command.h>
#include <decaf/lang/Exception.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::transport::TransportListener**

  *A listener of asynchronous **exceptions** (p. 67) from a command **transport** (p. 72) object.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::transport**

7.168 src/main/activemq/transport/TransportRegistry.h File Reference

```
#include <activemq/util/Config.h>
#include <string>
#include <vector>
#include <activemq/transport/TransportFactory.h>
#include <decaf/util/StlMap.h>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **activemq::transport::TransportRegistry**

  *Registry of all **Transport** (p. 3109) Factories that are available to the client at runtime.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::library**
- namespace **activemq::transport**

7.169 src/main/activemq/util/ActiveMQMessageTransformation.h File Reference

```
#include <cms/Message.h>
#include <cms/Destination.h>
#include <activemq/util/Config.h>
#include <string>
```

Data Structures

- class **activemq::util::ActiveMQMessageTransformation**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::core**
- namespace **activemq::commands**
- namespace **activemq::util**

7.170 src/main/activemq/util/ActiveMQProperties.h File Reference

```
#include <map>
#include <string>
#include <sstream>
#include <activemq/util/Config.h>
#include <cms/CMSProperties.h>
#include <decaf/util/Properties.h>
```

Data Structures

- class **activemq::util::ActiveMQProperties**

  *Implementation of the CMSProperties interface that delegates to a **decaf::util::Properties** (p. 2471) object.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::util**

7.171 src/main/activemq/util/AdvisorySupport.h File Reference

```
#include <activemq/util/Config.h>
#include <string>
#include <vector>
```

Data Structures

- class **activemq::util::AdvisorySupport**

  Support class that provides various static constants for use in constructing Destination names for the ActiveMQ advisory destinations.

Namespaces

- namespace **cms**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::commands**
- namespace **activemq::util**

7.172 src/main/activemq/util/CMSExceptionSupport.h File Reference

```
#include <activemq/util/Config.h>
#include <cms/CMSException.h>
#include <cms/CMSSecurityException.h>
#include <cms/MessageEOFException.h>
#include <cms/MessageFormatException.h>
#include <cms/MessageNotReadableException.h>
#include <cms/MessageNotWriteableException.h>
#include <cms/InvalidClientIdException.h>
#include <cms/InvalidDestinationException.h>
#include <cms/InvalidSelectorException.h>
#include <cms/IllegalStateException.h>
#include <cms/ResourceAllocationException.h>
#include <cms/TransactionInProgressException.h>
#include <cms/TransactionRolledBackException.h>
#include <cms/UnsupportedOperationException.h>
#include <cms/XAException.h>
#include <decaf/lang/Exception.h>
#include <string>
```

Data Structures

- class **activemq::util::CMSExceptionSupport**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::util**

Defines

- #define **AMQ_CATCH_ALL_THROW_CMSEXCEPTION**()

  Macro for catching an exception of one type and then re-throwing as a Basic CMSException, good for cases where the method isn't specific about what CMS Exceptions are thrown, bad if you need to throw an exception of MessageNotReadableException for instance.

7.172.1 Define Documentation

7.172.1.1 #define AMQ_CATCH_ALL_THROW_CMSEXCEPTION()

Macro for catching an exception of one type and then re-throwing as a Basic CMSException, good for cases where the method isn't specific about what CMS Exceptions are thrown, bad if you need to throw an exception of MessageNotReadableException for instance.

Referenced by activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::acknowledge(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::clearBody(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::clearProperties(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::equals(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getBooleanProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getByteProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getCMSMessageID(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getDoubleProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getFloatProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getIntProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getLongProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getPropertyNames(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getPropertyValueType(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getShortProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::getStringProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::propertyExists(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setBooleanProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setByteProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setCMSDestination(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setCMSReplyTo(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setDoubleProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setFloatProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setIntProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setLongProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setShortProperty(), and activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setStringProperty().

7.173 src/main/activemq/util/CompositeData.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/util/Properties.h>
#include <decaf/util/LinkedList.h>
#include <decaf/net/URI.h>
#include <decaf/net/URISyntaxException.h>
```

Data Structures

- class **activemq::util::CompositeData**

  Represents a Composite URI.

Namespaces

- namespace **activemq**

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- namespace **activemq::util**

7.174 src/main/activemq/util/Config.h File Reference

Defines

- #define **AMQCPP_API**

7.174.1 Define Documentation

7.174.1.1 #define AMQCPP_API

7.175 src/main/cms/Config.h File Reference

Defines

- #define **CMS_API**

7.175.1 Define Documentation

7.175.1.1 #define CMS_API

7.176 src/main/decaf/util/Config.h File Reference

```
#include <stddef.h>
```

Defines

- #define **DECAF_API**
- #define **NULL** 0
- #define **DECAF_UNUSED**

  The purpose of this header is to try to detect the supported headers of the platform when the .

- #define **DECAF_STDCALL**

7.176.1 Define Documentation

7.176.1.1 #define DECAF_API

7.176.1.2 #define DECAF_STDCALL

7.176.1.3 #define DECAF_UNUSED

The purpose of this header is to try to detect the supported headers of the platform when the . /configure script is not being used to generate the config.h file. Not using ./configure script and make system.. chances are your using the native build tools of Windows or OS X to do this build

7.176.1.4 #define NULL 0

Referenced by decaf::lang::System::arraycopy(), decaf::internal::nio::ByteArrayBuffer::asCharBuffer(), decaf::internal::nio::ByteArrayBuffer::asDoubleBuffer(), decaf::internal::nio::ByteArrayBuffer::asFloatBuffer(), decaf::internal::nio::ByteArrayBuffer::asIntBuffer(), decaf::internal::nio::ByteArrayBuffer::asLongBuffer(), decaf::internal::nio::ByteArrayBuffer::asShortBuffer(), decaf::util::concurrent::Executors::callable(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::clear(), activemq::commands::BooleanExpression::cloneDataStructure(), activemq::commands::ActiveMQTempDestination::cloneDataStructure(), activemq::commands::ActiveMQDestination::cloneDataStructure(), decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet::contains(), decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::contains(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::containsKey(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::containsValue(), decaf::util::StlSet< Resource * >::copy(), decaf::util::StlList< E >::copy(), decaf::util::StlMap< std::string, cms::Topic * >::entrySet(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::entrySet(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::entrySet(), decaf::util::StlSet< Resource * >::equals(), decaf::util::StlList< E >::equals(), decaf::util::concurrent::CopyOnWriteArraySet< E >::equals(), decaf::util::concurrent::CopyOnWriteArrayList< E >::equals(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::equals(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::failIfReadOnlyBody(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::failIfReadOnlyProperties(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::failIfWriteOnlyBody(), decaf::util::Arrays::fill(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::findKeyEntry(), activemq::transport::mock::MockTransport::fireCommand(), activemq::transport::mock::MockTransport::fireException(

decaf::util::concurrent::FutureTask< T >::FutureTask(), decaf::util::LinkedList< cms::Connection * >::get(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::get(), decaf::lang::ThreadLocal< E >::get(), activemq::commands::ActiveMQDestination::getCMSDestination(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::getEntry(), activemq::state::Tracked::isWaitingForResponse(), decaf::util::StlMap< std::string, cms::Topic * >::keySet(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::keySet(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::keySet(), activemq::transport::mock::MockTransport::narrow(), activemq::transport::IOTransport::narrow(), decaf::lang::Pointer< TransactionId >::operator!(), decaf::lang::ArrayPointer< HashMapEntry * >::operator!(), decaf::util::HashCode< decaf::lang::Pointer< T > >::operator()(), decaf::util::HashCode< const T * >::operator()(), decaf::util::HashCode< T * >::operator()(), decaf::lang::Pointer< TransactionId >::operator*(), decaf::lang::Pointer< TransactionId >::operator->(), decaf::lang::ArrayPointer< HashMapEntry * >::operator[](), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::peek(), decaf::lang::Pointer< TransactionId >::Pointer(), decaf::util::PriorityQueue< E >::PriorityQueue(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::putImpl(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::rehash(), decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy::rejectedExecution(), decaf::lang::Pointer< TransactionId >::release(), decaf::lang::ArrayPointer< HashMapEntry * >::release(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::remove(), decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet::remove(), decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet::remove(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::remove(), decaf::lang::ThreadLocal< E >::remove(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::removeEntry(), decaf::util::LinkedList< cms::Connection * >::set(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setBooleanProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setByteProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setCMSDestination(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setCMSReplyTo(), activemq::cmsutil::CmsTemplate::setDefaultDestinationName(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setDoubleProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setFloatProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setIntProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setLongProperty(), activemq::cmsutil::CmsTemplate::setPubSubDomain(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setShortProperty(), activemq::commands::ActiveMQMessageTemplate< cms::ObjectMessage >::setStringProperty(), activemq::transport::failover::BackupTransport::setTransport(), decaf::util::concurrent::LinkedBlockingQueue< Pointer< Transport > >::toArray(), decaf::internal::util::concurrent::TransferStack< E >::transfer(), decaf::internal::util::concurrent::TransferQueue< E >::transfer(), decaf::util::StlMap< std::string, cms::Topic * >::values(), decaf::util::HashMap< E, Set< E > *, HASHCODE >::values(), decaf::util::concurrent::ConcurrentStlMap< Pointer< ProducerId >, Pointer< ProducerState >, ProducerId::COMPARATOR >::values(), decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator::~ArrayListIterator(), decaf::util::concurrent::CopyOnWriteArrayList< E >::~CopyOnWriteArrayList(), and decaf::util::HashMap< E, Set< E > *, HASHCODE >::~HashMap().

7.177 src/main/activemq/util/IdGenerator.h File Reference

```
#include <activemq/util/Config.h>
#include <string>
```

Data Structures

- class **activemq::util::IdGenerator**

Namespaces

- namespace **activemq**

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- namespace **activemq::library**
- namespace **activemq::util**

7.178 src/main/activemq/util/LongSequenceGenerator.h File Reference

```
#include <activemq/util/Config.h>
```

```
#include <decaf/util/concurrent/Mutex.h>
```

Data Structures

- class **activemq::util::LongSequenceGenerator**

  This class is used to generate a sequence of long long values that are incremented each time a new value is requested.

Namespaces

- namespace **activemq**

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- namespace **activemq::util**

7.179 src/main/activemq/util/MarshallingSupport.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/io/IOException.h>
#include <decaf/io/UTFDataFormatException.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/DataInputStream.h>
#include <string>
```

Data Structures

- class **activemq::util::MarshallingSupport**

Namespaces

- namespace **activemq**

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- namespace **activemq::util**

7.180 src/main/activemq/util/MemoryUsage.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/util/Usage.h>
#include <decaf/util/concurrent/Mutex.h>
```

Data Structures

- class **activemq::util::MemoryUsage**

Namespaces

- namespace **activemq**

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- namespace **activemq::util**

7.181 src/main/activemq/util/PrimitiveList.h File Reference

```
#include <string>
#include <vector>
#include <decaf/util/LinkedList.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <stdio.h>
#include <activemq/util/PrimitiveValueNode.h>
#include <activemq/util/PrimitiveValueConverter.h>
```

Data Structures

- class **activemq::util::PrimitiveList**

  List of primitives.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::util**

7.182 src/main/activemq/util/PrimitiveMap.h File Reference

```
#include <string>
#include <vector>
#include <activemq/util/Config.h>
#include <decaf/util/Config.h>
#include <decaf/util/StlMap.h>
#include <decaf/util/NoSuchElementException.h>
#include <activemq/util/PrimitiveValueNode.h>
#include <activemq/util/PrimitiveValueConverter.h>
```

Data Structures

- class **activemq::util::PrimitiveMap**

  Map of named primitives.

Namespaces

- namespace **activemq**

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- namespace **activemq::util**

7.183 src/main/activemq/util/PrimitiveValueConverter.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/util/PrimitiveValueNode.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <string>
```

Data Structures

- class **activemq::util::PrimitiveValueConverter**

  *Class controls the conversion of data contained in a **PrimitiveValueNode** (p. 2415) from one type to another.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::util**

Functions

- template<>
  std::string **activemq::util::PrimitiveValueConverter::convert< std::string >** (const PrimitiveValueNode &value) const
- template<>
  std::vector< unsigned char > **activemq::util::PrimitiveValueConverter::convert< std::vector< unsigned char > >** (const PrimitiveValueNode &value) const

7.184 src/main/activemq/util/PrimitiveValueNode.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/util/Map.h>
#include <decaf/util/List.h>
```

Data Structures

- class **activemq::util::PrimitiveValueNode**

  Class that wraps around a single value of one of the many types.

- union **activemq::util::PrimitiveValueNode::PrimitiveValue**

  Define a union type comprised of the various types.

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::util**

7.185 src/main/activemq/util/Service.h File Reference

```
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::util::Service**

  Base interface for all classes that run as a ***Service*** *(p. 2657) inside the application.*

Namespaces

- namespace **activemq**

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- namespace **activemq::util**

7.186 src/main/activemq/util/ServiceListener.h File Reference

```
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::util::ServiceListener**

  Listener interface for observers of ***Service*** *(p. 2657) related events.*

Namespaces

- namespace **activemq**

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- namespace **activemq::util**

7.187 src/main/activemq/util/ServiceStopper.h File Reference

```
#include <activemq/util/Config.h>
#include <decaf/lang/Exception.h>
```

Data Structures

- class **activemq::util::ServiceStopper**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::util**

7.188 src/main/activemq/util/ServiceSupport.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/util/Service.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <decaf/util/ArrayList.h>
```

Data Structures

- class **activemq::util::ServiceSupport**

  Provides a base class for ***Service*** *(p. 2657) implementations.*

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::util**

7.189 src/main/activemq/util/URISupport.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/util/CompositeData.h>
#include <decaf/util/Properties.h>
#include <decaf/util/LinkedList.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **activemq::util::URISupport**

Namespaces

- namespace **activemq**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **activemq::util**

7.190 src/main/activemq/util/Usage.h File Reference

```
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::util::Usage**

Namespaces

- namespace **activemq**

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- namespace **activemq::util**

7.191 src/main/activemq/wireformat/MarshalAware.h File Reference

```
#include <vector>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::wireformat::MarshalAware**

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**

7.192 src/main/activemq/wireformat/openwire/marshal/BaseDataStrea File Reference

```
#include <activemq/wireformat/openwire/marshal/DataStreamMarshaller.h>
#include <activemq/wireformat/openwire/utils/HexTable.h>
#include <activemq/commands/MessageId.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::BaseDataStreamMarshaller**

  Base class for all Marshallers that ***marshal*** *(p. 83) DataStructures to and from the wire using the OpenWire protocol.*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**

7.193 src/main/activemq/wireformat/openwire/marshal/DataStreamM File Reference

```
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::DataStreamMarshaller**

  *Base class for all classes that **marshal** (p. 83) **commands** (p. 61) for Openwire.*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**

7.194 src/main/activemq/wireformat/openwire/marshal/generated/Act File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/MessageMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQBlobMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQBlobMessageMarshaller*** *(p. 209).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.195 src/main/activemq/wireformat/openwire/marshal/generated/Act File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/MessageMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQBytesMessageMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQBytesMessageMarshaller** (p. 228).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.196 src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQDestinationMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQDestinationMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQDestinationMarshaller*** *(p. 331).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.197 src/main/activemq/wireformat/openwire/marshal/generated/Act File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/MessageMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQMapMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQMapMessageMarshaller*** *(p. 355).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.198 src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQMessageMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/MessageMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQMessageMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQMessageMarshaller** (p. 366).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.199 src/main/activemq/wireformat/openwire/marshal/generated/Act File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/MessageMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQObjectMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQObjectMessageMarshaller*** *(p. 383).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.200 src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQQueueMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/ActiveMQDestinationMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQQueueMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQQueueMarshaller** (p. 423).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.201 src/main/activemq/wireformat/openwire/marshal/generated/Act File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/MessageMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQStreamMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQStreamMessageMarshaller*** *(p. 483).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.202 src/main/activemq/wireformat/openwire/marshal/generated/Act File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/ActiveMQDestinationMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQTempDestinationMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQTempDestinationMarshaller*** *(p. 492).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.203 src/main/activemq/wireformat/openwire/marshal/generated/Act File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/ActiveMQTempDestinationMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQTempQueueMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQTempQueueMarshaller*** *(p. 500).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.204 src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQTempTopicMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/ActiveMQTempDestinationMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQTempTopicMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQTempTopicMarshaller*** *(p. 508).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.205 src/main/activemq/wireformat/openwire/marshal/generated/Act File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/MessageMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQTextMessageMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ActiveMQTextMessageMarshaller*** *(p. 517).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.206 src/main/activemq/wireformat/openwire/marshal/generated/ActiveMQTopicMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/ActiveMQDestinationMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ActiveMQTopicMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ActiveMQTopicMarshaller** (p. 525).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.207 src/main/activemq/wireformat/openwire/marshal/generated/Bas File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::BaseCommandMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **BaseCommandMarshaller** (p. 636).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.208 src/main/activemq/wireformat/openwire/marshal/generated/Bro File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::BrokerIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **BrokerIdMarshaller** (p. 713).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.209 src/main/activemq/wireformat/openwire/marshal/generated/Brc File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::BrokerInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **BrokerInfoMarshaller** (p. 725).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.210 src/main/activemq/wireformat/openwire/marshal/generated/ConnectionControlMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ConnectionControlMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ConnectionControlMarshaller*** *(p. 1096).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.211 src/main/activemq/wireformat/openwire/marshal/generated/Co File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ConnectionErrorMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConnectionErrorMarshaller** (p. 1104).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.212 src/main/activemq/wireformat/openwire/marshal/generated/Con File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ConnectionIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConnectionIdMarshaller** (p. 1119).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.213 src/main/activemq/wireformat/openwire/marshal/generated/Co File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ConnectionInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConnectionInfoMarshaller** (p. 1130).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.214 src/main/activemq/wireformat/openwire/marshal/generated/Con File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ConsumerControlMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConsumerControlMarshaller** (p. 1163).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.215 src/main/activemq/wireformat/openwire/marshal/generated/Co File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ConsumerIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConsumerIdMarshaller** (p. 1172).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.216 src/main/activemq/wireformat/openwire/marshal/generated/Co File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ConsumerInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ConsumerInfoMarshaller** (p. 1185).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.217 src/main/activemq/wireformat/openwire/marshal/generated/Co File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ControlCommandMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ControlCommandMarshaller** (p. 1193).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.218 src/main/activemq/wireformat/openwire/marshal/generated/DataArrayResponseMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/ResponseMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::DataArrayResponseMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **DataArrayResponseMarshaller** (p. 1235).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.219 src/main/activemq/wireformat/openwire/marshal/generated/Dat File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/ResponseMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::DataResponseMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **DataResponseMarshaller** (p. 1277).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.220 src/main/activemq/wireformat/openwire/marshal/generated/DestinationInfoMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::DestinationInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **DestinationInfoMarshaller** (p. 1380).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.221 src/main/activemq/wireformat/openwire/marshal/generated/Dis File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::DiscoveryEventMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **DiscoveryEventMarshaller** (p. 1395).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.222 src/main/activemq/wireformat/openwire/marshal/generated/Exc File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/ResponseMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ExceptionResponseMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***ExceptionResponseMarshaller*** *(p. 1456).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.223 src/main/activemq/wireformat/openwire/marshal/generated/Flu File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::FlushCommandMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **FlushCommandMarshaller** (p. 1552).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.224 src/main/activemq/wireformat/openwire/marshal/generated/IntegerResponseMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/ResponseMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::IntegerResponseMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **IntegerResponseMarshaller** (p. 1743).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.225 src/main/activemq/wireformat/openwire/marshal/generated/Jou File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::JournalQueueAckMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **JournalQueueAckMarshaller** (p. 1794).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.226 src/main/activemq/wireformat/openwire/marshal/generated/JournalTopicAckMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::JournalTopicAckMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***JournalTopicAckMarshaller*** *(p. 1803).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.227 src/main/activemq/wireformat/openwire/marshal/generated/Jou File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::JournalTraceMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **JournalTraceMarshaller** (p. 1810).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.228 src/main/activemq/wireformat/openwire/marshal/generated/JournalTransactionMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::JournalTransactionMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***JournalTransactionMarshaller*** *(p. 1817).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.229 src/main/activemq/wireformat/openwire/marshal/generated/Kee File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::KeepAliveInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **KeepAliveInfoMarshaller** (p. 1824).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.230 src/main/activemq/wireformat/openwire/marshal/generated/LastPartialCommandMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/PartialCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::LastPartialCommandMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***LastPartialCommandMarshaller*** *(p. 1838).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.231 src/main/activemq/wireformat/openwire/marshal/generated/Loc File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/TransactionIdMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::LocalTransactionIdMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***LocalTransactionIdMarshaller*** *(p. 1907).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.232 src/main/activemq/wireformat/openwire/marshal/generated/Ma File Reference

```
#include <activemq/wireformat/openwire/OpenWireFormat.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::MarshallerFactory**

  Used to create marshallers for a specific version of the wire protocol.

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.233 src/main/activemq/wireformat/openwire/marshal/generated/Me File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::MessageAckMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **MessageAckMarshaller** (p. 2109).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.234 src/main/activemq/wireformat/openwire/marshal/generated/MessageDispatchMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::MessageDispatchMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **MessageDispatchMarshaller** (p. 2142).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.235 src/main/activemq/wireformat/openwire/marshal/generated/Me File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::MessageDispatchNotificationMarshalle**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***MessageDispatchNotificationMarshaller*** *(p. 2151).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.236 src/main/activemq/wireformat/openwire/marshal/generated/MessageIdMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::MessageIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **MessageIdMarshaller** (p. 2166).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.237 src/main/activemq/wireformat/openwire/marshal/generated/Me File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::MessageMarshaller**
  *Marshaling **code** (p. 999) for Open Wire Format for **MessageMarshaller** (p. 2171).*

Namespaces

- namespace **activemq**
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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.238 src/main/activemq/wireformat/openwire/marshal/generated/MessagePullMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::MessagePullMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **MessagePullMarshaller** (p. 2202).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.239 src/main/activemq/wireformat/openwire/marshal/generated/Net File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::NetworkBridgeFilterMarshaller**

  Marshaling ***code*** *(p. 999) for Open Wire Format for* ***NetworkBridgeFilterMarshaller*** *(p. 2237).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.240 src/main/activemq/wireformat/openwire/marshal/generated/PartialCommandMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::PartialCommandMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **PartialCommandMarshaller** (p. 2345).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.241 src/main/activemq/wireformat/openwire/marshal/generated/Pro File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ProducerAckMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ProducerAckMarshaller** (p. 2445).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.242 src/main/activemq/wireformat/openwire/marshal/generated/ProducerIdMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ProducerIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ProducerIdMarshaller** (p. 2457).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.243 src/main/activemq/wireformat/openwire/marshal/generated/Pro File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ProducerInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ProducerInfoMarshaller** (p. 2466).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.244 src/main/activemq/wireformat/openwire/marshal/generated/RemoveInfoMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::RemoveInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **RemoveInfoMarshaller** (p. 2561).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.245 src/main/activemq/wireformat/openwire/marshal/generated/Re File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::RemoveSubscriptionInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **RemoveSubscriptionInfoMarshaller** (p. 2570).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.246 src/main/activemq/wireformat/openwire/marshal/generated/ReplayCommandMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ReplayCommandMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ReplayCommandMarshaller** (p. 2578).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.247 src/main/activemq/wireformat/openwire/marshal/generated/Res File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ResponseMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ResponseMarshaller** (p. 2602).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.248 src/main/activemq/wireformat/openwire/marshal/generated/Ses File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::SessionIdMarshaller**
  *Marshaling **code** (p. 999) for Open Wire Format for **SessionIdMarshaller** (p. 2684).*

Namespaces

- namespace **activemq**
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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.249 src/main/activemq/wireformat/openwire/marshal/generated/Ses File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::SessionInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **SessionInfoMarshaller** (p. 2692).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.250 src/main/activemq/wireformat/openwire/marshal/generated/ShutdownInfoMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::ShutdownInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **ShutdownInfoMarshaller** (p. 2737).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.251 src/main/activemq/wireformat/openwire/marshal/generated/Sub File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::SubscriptionInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **SubscriptionInfoMarshaller** (p. 2934).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.252 src/main/activemq/wireformat/openwire/marshal/generated/TransactionIdMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::TransactionIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **TransactionIdMarshaller** (p. 3086).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.253 src/main/activemq/wireformat/openwire/marshal/generated/Tra File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/BaseCommandMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::TransactionInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **TransactionInfoMarshaller** (p. 3094).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.254 src/main/activemq/wireformat/openwire/marshal/generated/WireFormatInfoMarshaller.h File Reference

```
#include <activemq/wireformat/openwire/marshal/BaseDataStreamMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::WireFormatInfoMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **WireFormatInfoMarshaller** (p. 3227).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.255 src/main/activemq/wireformat/openwire/marshal/generated/XA File Reference

```
#include <activemq/wireformat/openwire/marshal/generated/TransactionIdMarshaller.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <activemq/util/Config.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::generated::XATransactionIdMarshaller**

  *Marshaling **code** (p. 999) for Open Wire Format for **XATransactionIdMarshaller** (p. 3270).*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**
- namespace **activemq::wireformat::openwire::marshal::generated**

7.256 src/main/activemq/wireformat/openwire/marshal/PrimitiveTypesMarshaller.h File Reference

```
#include <cms/CMSException.h>
#include <activemq/util/Config.h>
#include <activemq/util/PrimitiveValueNode.h>
#include <activemq/util/PrimitiveMap.h>
#include <activemq/util/PrimitiveList.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/IOException.h>
#include <string>
```

Data Structures

- class **activemq::wireformat::openwire::marshal::PrimitiveTypesMarshaller**

  This class wraps the functionality needed to ***marshal*** *(p. 83) a primitive map to the Openwire Format's expectation of what the map looks like on the wire.*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**

7.257 src/main/activemq/wireformat/openwire/OpenWireFormat.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/WireFormatInfo.h>
#include <activemq/commands/DataStructure.h>
#include <activemq/wireformat/WireFormat.h>
#include <activemq/wireformat/openwire/utils/BooleanStream.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/Properties.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <memory>
```

Data Structures

- class **activemq::wireformat::openwire::OpenWireFormat**

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::marshal**

7.258 src/main/activemq/wireformat/openwire/OpenWireFormatFactor File Reference

```
#include <activemq/util/Config.h>
#include <activemq/wireformat/WireFormatFactory.h>
#include <activemq/commands/WireFormatInfo.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/Properties.h>
```

Data Structures

- class **activemq::wireformat::openwire::OpenWireFormatFactory**

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**

7.259 src/main/activemq/wireformat/openwire/OpenWireFormatNegot File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/TransportFilter.h>
#include <activemq/wireformat/openwire/OpenWireFormat.h>
#include <activemq/wireformat/WireFormatNegotiator.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/concurrent/CountDownLatch.h>
#include <decaf/util/concurrent/Concurrent.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::wireformat::openwire::OpenWireFormatNegotiator**

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**

7.260 src/main/activemq/wireformat/openwire/OpenWireResponseBuil File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/mock/ResponseBuilder.h>
#include <decaf/util/LinkedList.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::wireformat::openwire::OpenWireResponseBuilder**

  *Used to allow a MockTransport to generate response **commands** (p. 61) to OpenWire Commands.*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**

7.261 src/main/activemq/wireformat/openwire/utils/BooleanStream.h File Reference

```
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::wireformat::openwire::utils::BooleanStream**

  Manages the writing and reading of boolean data streams to and from a data source such as a DataInputStream or DataOutputStream.

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::utils**

7.262 src/main/activemq/wireformat/openwire/utils/HexTable.h File Reference

```
#include <vector>
#include <string>
#include <activemq/util/Config.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **activemq::wireformat::openwire::utils::HexTable**

  *The **HexTable** (p. 1632) class maps hexidecimal strings to the value of an index into the table, i.e.*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::utils**

7.263 src/main/activemq/wireformat/openwire/utils/MessagePropertyI File Reference

```
#include <activemq/util/Config.h>
#include <activemq/commands/Message.h>
#include <activemq/util/PrimitiveMap.h>
#include <activemq/exceptions/ActiveMQException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
```

Data Structures

- class **activemq::wireformat::openwire::utils::MessagePropertyInterceptor**

  Used the base ActiveMQMessage class to intercept calls to get and set properties in order to capture the calls that use the reserved JMS properties and get and set them in the OpenWire Message properties.

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::openwire**
- namespace **activemq::wireformat::openwire::utils**

7.264 src/main/activemq/wireformat/stomp/StompCommandConstants File Reference

```
#include <cms/Destination.h>
#include <activemq/util/Config.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <string>
#include <map>
```

Data Structures

- class **activemq::wireformat::stomp::StompCommandConstants**

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::stomp**

7.265 src/main/activemq/wireformat/stomp/StompFrame.h File Reference

```
#include <string>
#include <string.h>
#include <map>
#include <decaf/util/Properties.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/DataInputStream.h>
#include <activemq/util/Config.h>
```

Data Structures

- class **activemq::wireformat::stomp::StompFrame**

  A Stomp-level message frame that encloses all messages to and from the broker.

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::stomp**

7.266 src/main/activemq/wireformat/stomp/StompHelper.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/util/LongSequenceGenerator.h>
#include <activemq/wireformat/stomp/StompFrame.h>
#include <activemq/commands/Message.h>
#include <activemq/commands/MessageId.h>
#include <activemq/commands/ProducerId.h>
#include <activemq/commands/ConsumerId.h>
#include <activemq/commands/TransactionId.h>
#include <activemq/commands/ActiveMQDestination.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::wireformat::stomp::StompHelper**

  Utility Methods used when marshaling to and from StompFrame's.

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::stomp**

7.267 src/main/activemq/wireformat/stomp/StompWireFormat.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/wireformat/WireFormat.h>
#include <activemq/wireformat/stomp/StompFrame.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <decaf/io/IOException.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::wireformat::stomp::StompWireFormat**

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::stomp**

7.268 src/main/activemq/wireformat/stomp/StompWireFormatFactory.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/wireformat/WireFormatFactory.h>
#include <activemq/wireformat/stomp/StompWireFormat.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::wireformat::stomp::StompWireFormatFactory**

  Factory used to create the Stomp Wire Format instance.

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**
- namespace **activemq::wireformat::stomp**

7.269 src/main/activemq/wireformat/WireFormat.h File Reference

```
#include <activemq/wireformat/WireFormatNegotiator.h>
#include <decaf/io/DataInputStream.h>
#include <decaf/io/DataOutputStream.h>
#include <decaf/io/IOException.h>
#include <decaf/lang/Pointer.h>
#include <activemq/util/Config.h>
#include <activemq/commands/Command.h>
#include <activemq/transport/Transport.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
```

Data Structures

- class **activemq::wireformat::WireFormat**

  Provides a mechanism to marshal ***commands*** *(p. 61) into and out of packets or into and out of streams, Channels and Datagrams.*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**

7.270 src/main/activemq/wireformat/WireFormatFactory.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/wireformat/WireFormat.h>
#include <decaf/util/Properties.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
```

Data Structures

- class **activemq::wireformat::WireFormatFactory**

  *The **WireFormatFactory** (p. 3215) is the interface that all **WireFormatFactory** (p. 3215) classes must extend.*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**

7.271 src/main/activemq/wireformat/WireFormatNegotiator.h File Reference

```
#include <activemq/util/Config.h>
#include <activemq/transport/TransportFilter.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **activemq::wireformat::WireFormatNegotiator**

  *Defines a **WireFormatNegotiator*** (p. *3231*) *which allows a **WireFormat*** (p. *3211*) *to.*

Namespaces

- namespace **activemq**

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- namespace **activemq::wireformat**

7.272 src/main/activemq/wireformat/WireFormatRegistry.h File Reference

```
#include <activemq/util/Config.h>
#include <string>
#include <vector>
#include <activemq/wireformat/WireFormatFactory.h>
#include <decaf/util/StlMap.h>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **activemq::wireformat::WireFormatRegistry**

  *Registry of all **WireFormat** (p. 3211) Factories that are available to the client at runtime.*

Namespaces

- namespace **activemq**

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- namespace **activemq::library**
- namespace **activemq::wireformat**

7.273 src/main/cms/AsyncCallback.h File Reference

```
#include <cms/Config.h>
```

```
#include <cms/ExceptionListener.h>
```

Data Structures

- class **cms::AsyncCallback**

  Asynchronous event interface for CMS asynchronous operations.

Namespaces

- namespace **cms**

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7.274 src/main/cms/BytesMessage.h File Reference

```
#include <cms/Config.h>
#include <cms/Message.h>
#include <cms/CMSException.h>
#include <cms/MessageNotReadableException.h>
#include <cms/MessageNotWriteableException.h>
#include <cms/MessageEOFException.h>
#include <cms/MessageFormatException.h>
```

Data Structures

- class **cms::BytesMessage**

  *A **BytesMessage** (p. 851) object is used to send a message containing a stream of unsigned bytes.*

Namespaces

- namespace **cms**

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7.275 src/main/cms/Closeable.h File Reference

```
#include <cms/Config.h>
#include <cms/CMSException.h>
```

Data Structures

- class **cms::Closeable**

  Interface for a class that implements the close method.

Namespaces

- namespace **cms**

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7.276 src/main/decaf/io/Closeable.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::io::Closeable**

  Interface for a class that implements the close method.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.277 src/main/cms/CMSException.h File Reference

```
#include <string>
#include <vector>
#include <iostream>
#include <exception>
#include <cms/Config.h>
```

Data Structures

- class **cms::CMSException**

  CMS API Exception that is the base for all exceptions thrown from CMS classes.

Namespaces

- namespace **cms**

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7.278 src/main/cms/CMSProperties.h File Reference

```
#include <cms/Config.h>
#include <map>
#include <string>
#include <vector>
```

Data Structures

- class **cms::CMSProperties**

  Interface for a Java-like properties object.

Namespaces

- namespace **cms**

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7.279 src/main/cms/CMSSecurityException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::CMSSecurityException**

  This exception must be thrown when a provider rejects a user name/password submitted by a client.

Namespaces

- namespace **cms**

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7.280 src/main/cms/Connection.h File Reference

```
#include <cms/Config.h>
#include <cms/Startable.h>
#include <cms/Stoppable.h>
#include <cms/Closeable.h>
#include <cms/Session.h>
#include <cms/ConnectionMetaData.h>
```

Data Structures

- class **cms::Connection**

  The client's connection to its provider.

Namespaces

- namespace **cms**

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7.281 src/main/cms/ConnectionFactory.h File Reference

```
#include <cms/Config.h>
#include <cms/CMSException.h>
#include <string>
```

Data Structures

- class **cms::ConnectionFactory**

  Defines the interface for a factory that creates connection objects, the ***Connection*** *(p. 1083) objects returned implement the CMS* ***Connection*** *(p. 1083) interface and hide the CMS Provider specific implementation details behind that interface.*

Namespaces

- namespace **cms**

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7.282 src/main/cms/ConnectionMetaData.h File Reference

```
#include <cms/Config.h>
```

```
#include <cms/CMSException.h>
```

Data Structures

- class **cms::ConnectionMetaData**

  *A **ConnectionMetaData** (p. 1134) object provides information describing the **Connection** (p. 1083) object.*

Namespaces

- namespace **cms**

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7.283 src/main/cms/DeliveryMode.h File Reference

`#include <cms/Config.h>`

Data Structures

- class **cms::DeliveryMode**

  This is an Abstract class whose purpose is to provide a container for the delivery mode enumeration for CMS messages.

Namespaces

- namespace **cms**

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7.284 src/main/cms/Destination.h File Reference

```
#include <cms/CMSProperties.h>
#include <cms/Config.h>
#include <string>
```

Data Structures

- class **cms::Destination**

  *A **Destination** (p. 1371) object encapsulates a provider-specific address.*

Namespaces

- namespace **cms**

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7.285 src/main/cms/ExceptionListener.h File Reference

```
#include <cms/Config.h>
```

```
#include <cms/CMSException.h>
```

Data Structures

- class **cms::ExceptionListener**

  If a CMS provider detects a serious problem, it notifies the client application through an ***ExceptionListener*** *(p. 1452) that is registered with the* ***Connection*** *(p. 1083).*

Namespaces

- namespace **cms**

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7.286 src/main/cms/IllegalStateException.h File Reference

```
#include <cms/Config.h>
```

```
#include <cms/CMSException.h>
```

Data Structures

- class **cms::IllegalStateException**

  This exception is thrown when a method is invoked at an illegal or inappropriate time or if the provider is not in an appropriate state for the requested operation.

Namespaces

- namespace **cms**

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7.287 src/main/decaf/lang/exceptions/IllegalStateException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::IllegalStateException**

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.288 src/main/cms/InvalidClientIdException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::InvalidClientIdException**

  This exception must be thrown when a client attempts to set a connection's client ID to a value that is rejected by a provider.

Namespaces

- namespace **cms**

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7.289 src/main/cms/InvalidDestinationException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::InvalidDestinationException**

  This exception must be thrown when a destination either is not understood by a provider or is no longer valid.

Namespaces

- namespace **cms**

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7.290 src/main/cms/InvalidSelectorException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::InvalidSelectorException**

  This exception must be thrown when a CMS client attempts to give a provider a message selector with invalid syntax.

Namespaces

- namespace **cms**

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7.291 src/main/cms/MapMessage.h File Reference

```
#include <cms/Config.h>
#include <cms/Message.h>
#include <cms/CMSException.h>
#include <cms/MessageFormatException.h>
#include <cms/MessageNotWriteableException.h>
```

Data Structures

- class **cms::MapMessage**

  *A **MapMessage*** (p. *2011*) *object is used to send a set of name-value pairs.*

Namespaces

- namespace **cms**

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7.292 src/main/cms/MessageAvailableListener.h File Reference

```
#include <cms/Config.h>
```

Data Structures

- class **cms::MessageAvailableListener**

  *A listener interface similar to the **MessageListener** (p. 2170) interface.*

Namespaces

- namespace **cms**

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7.293 src/main/cms/MessageConsumer.h File Reference

```
#include <cms/Config.h>
#include <cms/MessageListener.h>
#include <cms/MessageAvailableListener.h>
#include <cms/Message.h>
#include <cms/Closeable.h>
#include <cms/Startable.h>
#include <cms/Stoppable.h>
```

Data Structures

- class **cms::MessageConsumer**

  A client uses a ***MessageConsumer*** *(p. 2114) to received messages from a destination.*

Namespaces

- namespace **cms**

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7.294 src/main/cms/MessageEnumeration.h File Reference

```
#include <cms/Config.h>
#include <cms/Message.h>
#include <cms/CMSException.h>
```

Data Structures

- class **cms::MessageEnumeration**

  Defines an object that enumerates a collection of Messages.

Namespaces

- namespace **cms**

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7.295 src/main/cms/MessageEOFException.h File Reference

```
#include <cms/Config.h>
```

```
#include <cms/CMSException.h>
```

Data Structures

- class **cms::MessageEOFException**

  This exception must be thrown when an unexpected end of stream has been reached when a ***StreamMessage*** *(p. 2907) or* ***BytesMessage*** *(p. 851) is being read.*

Namespaces

- namespace **cms**

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7.296 src/main/cms/MessageFormatException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::MessageFormatException**

  This exception must be thrown when a CMS client attempts to use a data type not supported by a message or attempts to read data in a message as the wrong type.

Namespaces

- namespace **cms**

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7.297 src/main/cms/MessageListener.h File Reference

```
#include <cms/Config.h>
```

Data Structures

- class **cms::MessageListener**

  A `MessageListener` (p. 2170) object is used to receive asynchronously delivered messages.

Namespaces

- namespace **cms**

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7.298 src/main/cms/MessageNotReadableException.h File Reference

```
#include <cms/Config.h>
#include <cms/CMSException.h>
```

Data Structures

- class **cms::MessageNotReadableException**

  This exception must be thrown when a CMS client attempts to read a write-only message.

Namespaces

- namespace **cms**

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7.299 src/main/cms/MessageNotWriteableException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::MessageNotWriteableException**

  This exception must be thrown when a CMS client attempts to write to a read-only message.

Namespaces

- namespace **cms**

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7.300 src/main/cms/MessageProducer.h File Reference

```
#include <cms/Config.h>
#include <cms/AsyncCallback.h>
#include <cms/Message.h>
#include <cms/Destination.h>
#include <cms/Closeable.h>
#include <cms/CMSException.h>
#include <cms/InvalidDestinationException.h>
#include <cms/MessageFormatException.h>
#include <cms/UnsupportedOperationException.h>
#include <cms/DeliveryMode.h>
```

Data Structures

- class **cms::MessageProducer**

  A client uses a ***MessageProducer*** *(p. 2179) object to send messages to a* ***Destination*** *(p. 1371).*

Namespaces

- namespace **cms**

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7.301 src/main/cms/MessageTransformer.h File Reference

```
#include <cms/Config.h>
```

Data Structures

- class **cms::MessageTransformer**

  *Provides an interface for clients to transform **cms::Message** (p. 2077) objects inside the CMS **MessageProducer** (p. 2179) and **MessageConsumer** (p. 2114) objects before the message's are sent or received.*

Namespaces

- namespace **cms**

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7.302 src/main/cms/ObjectMessage.h File Reference

```
#include <cms/Config.h>
```

```
#include <cms/Message.h>
```

Data Structures

- class **cms::ObjectMessage**

  Place holder for interaction with JMS systems that support Java, the C++ client is not responsible for deserializing the contained Object.

Namespaces

- namespace **cms**

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7.303 src/main/cms/Queue.h File Reference

```
#include <cms/Config.h>
#include <cms/Destination.h>
#include <cms/CMSException.h>
```

Data Structures

- class **cms::Queue**

  An interface encapsulating a provider-specific queue name.

Namespaces

- namespace **cms**

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7.304 src/main/decaf/util/Queue.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/AbstractCollection.h>
#include <decaf/lang/Exception.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/util/NoSuchElementException.h>
```

Data Structures

- class **decaf::util::Queue< E >**

  A kind of collection provides advanced operations than other basic collections, such as insertion, extraction, and inspection.

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::util**

7.305 src/main/cms/QueueBrowser.h File Reference

```
#include <string>
#include <cms/Config.h>
#include <cms/Closeable.h>
#include <cms/Queue.h>
#include <cms/Message.h>
#include <cms/CMSException.h>
#include <cms/MessageEnumeration.h>
```

Data Structures

- class **cms::QueueBrowser**

  This class implements in interface for browsing the messages in a ***Queue*** *(p. 2499) without removing them.*

Namespaces

- namespace **cms**

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7.306 src/main/cms/ResourceAllocationException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::ResourceAllocationException**

  This exception is thrown when an operation is invalid because a transaction is in progress.

Namespaces

- namespace **cms**

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7.307 src/main/cms/Session.h File Reference

```
#include <cms/Config.h>
#include <cms/Closeable.h>
#include <cms/Startable.h>
#include <cms/Stoppable.h>
#include <cms/Message.h>
#include <cms/TextMessage.h>
#include <cms/BytesMessage.h>
#include <cms/MapMessage.h>
#include <cms/StreamMessage.h>
#include <cms/MessageProducer.h>
#include <cms/MessageConsumer.h>
#include <cms/Topic.h>
#include <cms/Queue.h>
#include <cms/QueueBrowser.h>
#include <cms/TemporaryTopic.h>
#include <cms/TemporaryQueue.h>
#include <cms/CMSException.h>
```

Data Structures

- class **cms::Session**

  *A **Session** (p. 2665) object is a single-threaded context for producing and consuming messages.*

Namespaces

- namespace **cms**

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7.308 src/main/cms/Startable.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::Startable**

  Interface for a class that implements the start method.

Namespaces

- namespace **cms**

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7.309 src/main/cms/Stoppable.h File Reference

```
#include <cms/Config.h>
```

```
#include <cms/CMSException.h>
```

Data Structures

- class **cms::Stoppable**

  Interface for a class that implements the stop method.

Namespaces

- namespace **cms**

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7.310 src/main/cms/StreamMessage.h File Reference

```
#include <cms/Config.h>
#include <cms/Message.h>
#include <cms/CMSException.h>
#include <cms/MessageNotReadableException.h>
#include <cms/MessageNotWriteableException.h>
#include <cms/MessageFormatException.h>
#include <cms/MessageEOFException.h>
```

Data Structures

- class **cms::StreamMessage**

  Interface for a ***StreamMessage*** *(p. 2907).*

Namespaces

- namespace **cms**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

7.311 src/main/cms/TemporaryQueue.h File Reference

```
#include <cms/Config.h>
#include <cms/Queue.h>
#include <cms/CMSException.h>
```

Data Structures

- class **cms::TemporaryQueue**

  *Defines a Temporary **Queue** (p. 2499) based **Destination** (p. 1371).*

Namespaces

- namespace **cms**

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7.312 src/main/cms/TemporaryTopic.h File Reference

```
#include <cms/Config.h>
#include <cms/Topic.h>
#include <cms/CMSException.h>
```

Data Structures

- class **cms::TemporaryTopic**

  Defines a Temporary ***Topic*** (p. *3080*) *based* ***Destination*** (p. *1371*).

Namespaces

- namespace **cms**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

7.313 src/main/cms/TextMessage.h File Reference

```
#include <cms/Config.h>
#include <cms/Message.h>
#include <cms/CMSException.h>
#include <cms/MessageNotWriteableException.h>
```

Data Structures

- class **cms::TextMessage**

  Interface for a text message.

Namespaces

- namespace **cms**

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7.314 src/main/cms/Topic.h File Reference

```
#include <cms/Config.h>
#include <cms/Destination.h>
#include <cms/CMSException.h>
```

Data Structures

- class **cms::Topic**

  An interface encapsulating a provider-specific topic name.

Namespaces

- namespace **cms**

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7.315 src/main/cms/TransactionInProgressException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::TransactionInProgressException**

  This exception is thrown when an operation is invalid because a transaction is in progress.

Namespaces

- namespace **cms**

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7.316 src/main/cms/TransactionRolledBackException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::TransactionRolledBackException**

  This exception must be thrown when a call to ***Session.commit*** *(*p. 2669*) results in a rollback of the current transaction.*

Namespaces

- namespace **cms**

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7.317 src/main/cms/UnsupportedOperationException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::UnsupportedOperationException**

  This exception must be thrown when a CMS client attempts use a CMS method that is not implemented or not supported by the CMS Provider in use.

Namespaces

- namespace **cms**

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7.318 src/main/decaf/lang/exceptions/UnsupportedOperationException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::UnsupportedOperationException**

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.319 src/main/cms/XAConnection.h File Reference

```
#include <cms/Config.h>
#include <cms/CMSException.h>
#include <cms/Connection.h>
#include <cms/XASession.h>
```

Data Structures

- class **cms::XAConnection**

  *The **XAConnection** (p. 3245) interface defines an extended **Connection** (p. 1083) type that is used to create **XASession** (p. 3262) objects.*

Namespaces

- namespace **cms**

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7.320 src/main/cms/XAConnectionFactory.h File Reference

```
#include <cms/Config.h>
#include <cms/XAConnection.h>
#include <cms/XAException.h>
```

Data Structures

- class **cms::XAConnectionFactory**

  *The **XAConnectionFactory** (p. 3246) interface is specialized interface that defines an **ConnectionFactory** (p. 1108) that creates **Connection** (p. 1083) instance that will participate in XA Transactions.*

Namespaces

- namespace **cms**

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7.321 src/main/cms/XAException.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::XAException**

  *The **XAException** (p. 3249) is thrown by the Resource Manager (RM) to inform the Transaction Manager of an error encountered by the involved transaction.*

Namespaces

- namespace **cms**

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7.322 src/main/cms/XAResource.h File Reference

```
#include <cms/Config.h>
```

```
#include <cms/Xid.h>
```

```
#include <cms/XAException.h>
```

Data Structures

- class **cms::XAResource**

  *The **XAResource** (p. 3255) interface is a CMS mapping of the industry standard XA interface based on the X/Open CAE Specification (Distributed Transaction Processing: The XA Specification).*

Namespaces

- namespace **cms**

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7.323 src/main/cms/XASession.h File Reference

```
#include <cms/Config.h>
```

```
#include <cms/Session.h>
```

```
#include <cms/XAResource.h>
```

Data Structures

- class **cms::XASession**

  *The **XASession** (p. 3262) interface extends the capability of **Session** (p. 2665) by adding access to a CMS provider's support for the operating inside an XA Transaction (optional).*

Namespaces

- namespace **cms**

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7.324 src/main/cms/Xid.h File Reference

`#include <cms/Config.h>`

`#include <cms/CMSException.h>`

Data Structures

- class **cms::Xid**

  An interface which provides a mapping for the X/Open XID transaction identifier structure.

Namespaces

- namespace **cms**

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7.325 src/main/decaf/internal/AprPool.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <apr_pools.h>
```

Data Structures

- class **decaf::internal::AprPool**

  Wraps an APR pool object so that classes in ***decaf*** *(p. 95) can create a static member for use in static methods where apr function calls that need a pool are made.*

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**

7.326 src/main/decaf/internal/DecafRuntime.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Runtime.h>
#include <decaf/util/concurrent/Mutex.h>
#include <apr_pools.h>
```

Data Structures

- class **decaf::internal::DecafRuntime**

  Handles APR initialization and termination.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**

7.327 src/main/decaf/internal/io/StandardErrorOutputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/OutputStream.h>
```

Data Structures

- class **decaf::internal::io::StandardErrorOutputStream**

  Wrapper Around the Standard error Output facility on the current platform.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::io**

7.328 src/main/decaf/internal/io/StandardInputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/InputStream.h>
```

Data Structures

- class **decaf::internal::io::StandardInputStream**

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::io**

7.329 src/main/decaf/internal/io/StandardOutputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/OutputStream.h>
```

Data Structures

- class **decaf::internal::io::StandardOutputStream**

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::io**

7.330 src/main/decaf/internal/net/DefaultServerSocketFactory.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/net/ServerSocketFactory.h>
```

Data Structures

- class **decaf::internal::net::DefaultServerSocketFactory**

  Default implementation of the Decaf ServerSocketFactory, creates ServerSocket objects with supplied options.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**

7.331 src/main/decaf/internal/net/DefaultSocketFactory.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/SocketFactory.h>
```

Data Structures

- class **decaf::internal::net::DefaultSocketFactory**

  SocketFactory implementation that is used to create Sockets.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**

7.332 src/main/decaf/internal/net/Network.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/internal/util/Resource.h>
#include <decaf/internal/util/GenericResource.h>
```

Data Structures

- class **decaf::internal::net::Network**

  Internal class used to manage Networking related resources and hide platform dependent calls from the higher level API.

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::net**

7.333 src/main/decaf/internal/net/SocketFileDescriptor.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/FileDescriptor.h>
```

Data Structures

- class **decaf::internal::net::SocketFileDescriptor**

  File Descriptor type used internally by Decaf Socket objects.

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::net**

7.334 src/main/decaf/internal/net/ssl/DefaultSSLContext.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/ssl/SSLContext.h>
```

Data Structures

- class **decaf::internal::net::ssl::DefaultSSLContext**

  Default SSLContext manager for the Decaf library.

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**

7.335 src/main/decaf/internal/net/ssl/DefaultSSLServerSocketFactory.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/net/ssl/SSLServerSocketFactory.h>
```

Data Structures

- class **decaf::internal::net::ssl::DefaultSSLServerSocketFactory**

  Default implementation of the SSLServerSocketFactory, this factory throws an Exception from all its create methods to indicate that SSL is not supported, this factory is used when OpenSSL is not enabled in the builds.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**

7.336 src/main/decaf/internal/net/ssl/DefaultSSLSocketFactory.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/ssl/SSLSocketFactory.h>
#include <string>
#include <vector>
```

Data Structures

- class **decaf::internal::net::ssl::DefaultSSLSocketFactory**

  Default implementation of the SSLSocketFactory, this factory throws an Exception from all its create methods to indicate that SSL is not supported, this factory is used when OpenSSL is not enabled in the builds.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**

7.337 src/main/decaf/internal/net/ssl/openssl/OpenSSLContextSpi.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/ssl/SSLContextSpi.h>
```

Data Structures

- class **decaf::internal::net::ssl::openssl::OpenSSLContextSpi**

  Provides an SSLContext that wraps the OpenSSL API.

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**
- namespace **decaf::internal::net::ssl::openssl**

7.338 src/main/decaf/internal/net/ssl/openssl/OpenSSLParameters.h File Reference

```
#include <decaf/util/Config.h>
#include <string>
#include <vector>
```

Data Structures

- class **decaf::internal::net::ssl::openssl::OpenSSLParameters**

  Container class for parameters that are Common to OpenSSL socket classes.

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**
- namespace **decaf::internal::net::ssl::openssl**

7.339 src/main/decaf/internal/net/ssl/openssl/OpenSSLServerSocket.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/ssl/SSLServerSocket.h>
```

Data Structures

- class **decaf::internal::net::ssl::openssl::OpenSSLServerSocket**

  SSLServerSocket based on OpenSSL library ***code*** (p. *999*).

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**
- namespace **decaf::internal::net::ssl::openssl**

7.340 src/main/decaf/internal/net/ssl/openssl/OpenSSLServerSocketFa File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/net/ssl/SSLServerSocketFactory.h>
```

Data Structures

- class **decaf::internal::net::ssl::openssl::OpenSSLServerSocketFactory**

  SSLServerSocketFactory that creates Server Sockets that use OpenSSL.

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**
- namespace **decaf::internal::net::ssl::openssl**

7.341 src/main/decaf/internal/net/ssl/openssl/OpenSSLSocket.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/ssl/SSLSocket.h>
#include <decaf/io/InputStream.h>
#include <decaf/io/OutputStream.h>
```

Data Structures

- class **decaf::internal::net::ssl::openssl::OpenSSLSocket**

  Wraps a a Normal Socket object and extends or overrides functions in that class to make use of the OpenSSL Socket API.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**
- namespace **decaf::internal::net::ssl::openssl**

7.342 src/main/decaf/internal/net/ssl/openssl/OpenSSLSocketExceptio File Reference

`#include <decaf/util/Config.h>`

`#include <decaf/net/SocketException.h>`

Data Structures

- class **decaf::internal::net::ssl::openssl::OpenSSLSocketException**

  Subclass of the standard SocketException that knows how to produce an error message from the OpenSSL error stack.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**
- namespace **decaf::internal::net::ssl::openssl**

7.343 src/main/decaf/internal/net/ssl/openssl/OpenSSLSocketFactory.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/ssl/SSLSocketFactory.h>
```

Data Structures

- class **decaf::internal::net::ssl::openssl::OpenSSLSocketFactory**

  Client Socket Factory that creates SSL based client sockets using the OpenSSL library.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**
- namespace **decaf::internal::net::ssl::openssl**

7.344 src/main/decaf/internal/net/ssl/openssl/OpenSSLSocketInputStr File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/io/InputStream.h>
```

Data Structures

- class **decaf::internal::net::ssl::openssl::OpenSSLSocketInputStream**

  An output stream for reading data from an OpenSSL Socket instance.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**
- namespace **decaf::internal::net::ssl::openssl**

7.345 src/main/decaf/internal/net/ssl/openssl/OpenSSLSocketOutputS File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/OutputStream.h>
```

Data Structures

- class **decaf::internal::net::ssl::openssl::OpenSSLSocketOutputStream**

  *OutputStream implementation used to write data to an **OpenSSLSocket** (p. 2280) instance.*

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::ssl**
- namespace **decaf::internal::net::ssl::openssl**

7.346 src/main/decaf/internal/net/tcp/TcpSocket.h File Reference

```
#include <decaf/net/SocketException.h>
#include <decaf/net/SocketImpl.h>
#include <decaf/io/InputStream.h>
#include <decaf/io/OutputStream.h>
#include <decaf/util/Config.h>
#include <decaf/internal/AprPool.h>
#include <decaf/io/IOException.h>
#include <decaf/net/SocketTimeoutException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::internal::net::tcp::TcpSocket**

  Platform-independent implementation of the socket interface.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::tcp**

7.347 src/main/decaf/internal/net/tcp/TcpSocketInputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/InputStream.h>
#include <decaf/io/IOException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::internal::net::tcp::TcpSocketInputStream**

  Input stream for performing reads on a socket.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::tcp**

7.348 src/main/decaf/internal/net/tcp/TcpSocketOutputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/OutputStream.h>
```

Data Structures

- class **decaf::internal::net::tcp::TcpSocketOutputStream**

  Output stream for performing write operations on a socket.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**
- namespace **decaf::internal::net::tcp**

7.349 src/main/decaf/internal/net/URIEncoderDecoder.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/URISyntaxException.h>
#include <string>
```

Data Structures

- class **decaf::internal::net::URIEncoderDecoder**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**

7.350 src/main/decaf/internal/net/URIHelper.h File Reference

```
#include <string>
#include <decaf/util/Config.h>
#include <decaf/net/URISyntaxException.h>
#include <decaf/internal/net/URIType.h>
```

Data Structures

- class **decaf::internal::net::URIHelper**

  Helper class used by the URI classes in encoding and decoding of URI's.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**

7.351 src/main/decaf/internal/net/URIType.h File Reference

```
#include <string>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::internal::net::URIType**

  Basic type object that holds data that composes a given URI.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::net**

7.352 src/main/decaf/internal/nio/BufferFactory.h File Reference

```
#include <decaf/nio/ByteBuffer.h>
#include <decaf/nio/CharBuffer.h>
#include <decaf/nio/DoubleBuffer.h>
#include <decaf/nio/FloatBuffer.h>
#include <decaf/nio/LongBuffer.h>
#include <decaf/nio/IntBuffer.h>
#include <decaf/nio/ShortBuffer.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::internal::nio::BufferFactory**

  *Factory class used by static methods in the **decaf::nio** (p. 119) package to create the various default version of the NIO interfaces.*

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::nio**

7.353 src/main/decaf/internal/nio/ByteArrayBuffer.h File Reference

```
#include <decaf/nio/ByteBuffer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
#include <decaf/internal/util/ByteArrayAdapter.h>
#include <decaf/nio/CharBuffer.h>
#include <decaf/nio/DoubleBuffer.h>
#include <decaf/nio/FloatBuffer.h>
#include <decaf/nio/ShortBuffer.h>
#include <decaf/nio/IntBuffer.h>
#include <decaf/nio/LongBuffer.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **decaf::internal::nio::ByteArrayBuffer**

  This class defines six categories of operations upon byte buffers:.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::nio**

7.354 src/main/decaf/internal/nio/CharArrayBuffer.h File Reference

```
#include <decaf/nio/CharBuffer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
#include <decaf/internal/util/ByteArrayAdapter.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **decaf::internal::nio::CharArrayBuffer**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::nio**

7.355 src/main/decaf/internal/nio/DoubleArrayBuffer.h File Reference

```
#include <decaf/nio/DoubleBuffer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
#include <decaf/internal/util/ByteArrayAdapter.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **decaf::internal::nio::DoubleArrayBuffer**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::nio**

7.356 src/main/decaf/internal/nio/FloatArrayBuffer.h File Reference

```
#include <decaf/nio/FloatBuffer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
#include <decaf/internal/util/ByteArrayAdapter.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **decaf::internal::nio::FloatArrayBuffer**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::nio**

7.357 src/main/decaf/internal/nio/IntArrayBuffer.h File Reference

```
#include <decaf/nio/IntBuffer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
#include <decaf/internal/util/ByteArrayAdapter.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **decaf::internal::nio::IntArrayBuffer**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::nio**

7.358 src/main/decaf/internal/nio/LongArrayBuffer.h File Reference

```
#include <decaf/nio/LongBuffer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
#include <decaf/internal/util/ByteArrayAdapter.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **decaf::internal::nio::LongArrayBuffer**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::nio**

7.359 src/main/decaf/internal/nio/ShortArrayBuffer.h File Reference

```
#include <decaf/nio/ShortBuffer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
#include <decaf/internal/util/ByteArrayAdapter.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **decaf::internal::nio::ShortArrayBuffer**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::nio**

7.360 src/main/decaf/internal/security/Engine.h File Reference

```
#include <decaf/util/Config.h>
#include <string>
```

Data Structures

- class **decaf::internal::security::Engine**

  *The **Engine** (p. 1437) class serves as a convenience class for classes in the Decaf Security package.*

Namespaces

- namespace **decaf**

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- namespace **decaf::security**
- namespace **decaf::internal**
- namespace **decaf::internal::security**

7.361 src/main/decaf/internal/security/provider/crypto/MD4MessageD File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/MessageDigestSpi.h>
```

Data Structures

- class **decaf::internal::security::provider::crypto::MD4MessageDigestSpi**
  MD4 MessageDigestSpi.

Namespaces

- namespace **decaf**
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- namespace **decaf::internal**
- namespace **decaf::internal::security**
- namespace **decaf::internal::security::provider**
- namespace **decaf::internal::security::provider::crypto**

7.362 src/main/decaf/internal/security/provider/crypto/MD5MessageD File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/security/MessageDigestSpi.h>
```

Data Structures

- class **decaf::internal::security::provider::crypto::MD5MessageDigestSpi**

  MD5 MessageDigestSpi.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::security**
- namespace **decaf::internal::security::provider**
- namespace **decaf::internal::security::provider::crypto**

7.363 src/main/decaf/internal/security/provider/crypto/SHA1Message File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/MessageDigestSpi.h>
```

Data Structures

- class **decaf::internal::security::provider::crypto::SHA1MessageDigestSpi**

  SHA1 MessageDigestSpi.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::security**
- namespace **decaf::internal::security::provider**
- namespace **decaf::internal::security::provider::crypto**

7.364 src/main/decaf/internal/security/provider/DefaultMessageDigest File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/ProviderService.h>
#include <string>
```

Data Structures

- class **decaf::internal::security::provider::DefaultMessageDigestProviderService**

  Decaf's Default Message Digest Security ***provider*** *(*p. *104**) used to create instances of the built-in Message Digest algorithm SPI classes.*

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::security**
- namespace **decaf::internal::security::provider**

7.365 src/main/decaf/internal/security/provider/DefaultProvider.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/Provider.h>
```

Data Structures

- class **decaf::internal::security::provider::DefaultProvider**

  Implements the Security Provider interface for the Decaf library.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::security**
- namespace **decaf::internal::security::provider**

7.366 src/main/decaf/internal/security/provider/DefaultSecureRandom File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/ProviderService.h>
#include <string>
```

Data Structures

- class **decaf::internal::security::provider::DefaultSecureRandomProviderService**

  Decaf's Default Secure Random Security ***provider*** *(*p. *104**) used to create instances of the built-in Secure Random algorithm SPI classes.*

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::security**
- namespace **decaf::internal::security::provider**

7.367 src/main/decaf/internal/security/SecurityRuntime.h File Reference

`#include <decaf/util/Config.h>`

`#include <decaf/util/concurrent/Mutex.h>`

Data Structures

- class **decaf::internal::security::SecurityRuntime**

  Internal class used to manage Security related resources and hide platform dependent calls from the higher level API.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::security**

7.368 src/main/decaf/internal/security/ServiceRegistry.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <string>
```

Data Structures

- class **decaf::internal::security::ServiceRegistry**

  Serves as a registry for all the Providers for services using the naming format of "ServiceName.Algorithm".

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::security**
- namespace **decaf::internal**
- namespace **decaf::internal::security**

7.369 src/main/decaf/internal/security/unix/SecureRandomImpl.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/SecureRandomSpi.h>
```

Data Structures

- class **decaf::internal::security::SecureRandomImpl**

  Secure Random Number Generator for Unix based platforms that attempts to obtain secure bytes with high entropy from known sources.

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::security**

7.370 src/main/decaf/internal/security/windows/SecureRandomImpl.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/security/SecureRandomSpi.h>
```

Data Structures

- class **decaf::internal::security::SecureRandomImpl**

  Secure Random Number Generator for Unix based platforms that attempts to obtain secure bytes with high entropy from known sources.

Namespaces

- namespace **decaf**

  Licensed to the Apache Software Foundation (ASF) under one or more contributor license agreements.

- namespace **decaf::internal**
- namespace **decaf::internal::security**

7.371 src/main/decaf/internal/util/ByteArrayAdapter.h File Reference

```
#include <decaf/lang/exceptions/InvalidStateException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
```

Data Structures

- class **decaf::internal::util::ByteArrayAdapter**

  This class adapts primitive type arrays to a base byte array so that the classes can inter-operate on the same base byte array without copying data.

- union **decaf::internal::util::ByteArrayAdapter::Array**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**

7.372 src/main/decaf/internal/util/concurrent/Atomics.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::internal::util::concurrent::Atomics**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

7.373 src/main/decaf/internal/util/concurrent/ExecutorsSupport.h File Reference

Data Structures

- class **decaf::internal::util::concurrent::ExecutorsSupport**

  Various support methods for use in Executors and surrounding classes.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

7.374 src/main/decaf/internal/util/concurrent/PlatformThread.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/internal/util/concurrent/ThreadingTypes.h>
#include <vector>
```

Data Structures

- class **decaf::internal::util::concurrent::PlatformThread**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

7.375 src/main/decaf/internal/util/concurrent/SynchronizableImpl.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/Mutex.h>
```

Data Structures

- class **decaf::internal::util::concurrent::SynchronizableImpl**

  A convenience class used by some Decaf classes to implement the Synchronizable interface when there is no issues related to multiple inheritance.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

7.376 src/main/decaf/internal/util/concurrent/Threading.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Thread.h>
```

Data Structures

- class **decaf::internal::util::concurrent::Threading**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

7.377 src/main/decaf/internal/util/concurrent/ThreadingTypes.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/internal/util/concurrent/windows/PlatformDefs.h>
```

Data Structures

- struct **decaf::internal::util::concurrent::ThreadHandle**
- struct **decaf::internal::util::concurrent::MonitorHandle**
- class **decaf::internal::util::concurrent::CompletionCondition**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

Defines

- #define **DECAF_MAX_TLS_SLOTS** 384

  Max number of TLS keys that a thread can use.

Typedefs

- typedef PLATFORM_THREAD_CALLBACK_TYPE(PLATFORM_CALLING_CONV * **decaf::internal::util::concurrent::threadMainMethod**)(PLATFORM_THREAD_ENTRY_ARG)

  *This is the main method for thread instances, this value is valid on any platform, the **PlatformThread** (p. 2349) methods will handle calling this method and providing it with its assigned arg.*

- typedef void(* **decaf::internal::util::concurrent::threadingTask**)(void *)

  *The **ThreadHandle** (p. 3014) contains one of these and it should be the method that does the actual work for the thread.*

7.377.1 Define Documentation

7.377.1.1 #define DECAF_MAX_TLS_SLOTS 384

Max number of TLS keys that a thread can use.

7.378 src/main/decaf/internal/util/concurrent/ThreadLocalImpl.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::internal::util::concurrent::ThreadLocalImpl**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

7.379 src/main/decaf/internal/util/concurrent/Transferer.h File Reference

```
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/util/concurrent/TimeoutException.h>
```

Data Structures

- class **decaf::internal::util::concurrent::Transferer< E >**

  *Shared **internal** (p. 96) API for dual stacks and queues.*

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

7.380 src/main/decaf/internal/util/concurrent/TransferQueue.h File Reference

```
#include <decaf/internal/util/concurrent/Transferer.h>
#include <decaf/util/concurrent/locks/LockSupport.h>
#include <decaf/util/concurrent/atomic/AtomicReference.h>
#include <decaf/util/concurrent/TimeoutException.h>
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/lang/Thread.h>
```

Data Structures

- class **decaf::internal::util::concurrent::TransferQueue< E >**

  This extends Scherer-Scott dual queue algorithm, differing, among other ways, by using modes within nodes rather than marked pointers.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

7.381 src/main/decaf/internal/util/concurrent/TransferStack.h File Reference

```
#include <decaf/internal/util/concurrent/Transferer.h>
#include <decaf/util/concurrent/TimeoutException.h>
#include <decaf/lang/exceptions/InterruptedException.h>
```

Data Structures

- class **decaf::internal::util::concurrent::TransferStack< E >**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

7.382 src/main/decaf/internal/util/concurrent/unix/PlatformDefs.h File Reference

```
#include <decaf/util/Config.h>
```

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

Defines

- #define **PLATFORM_THREAD_RETURN**() return 0;
- #define **PLATFORM_THREAD_CALLBACK_TYPE** void*
- #define **PLATFORM_DEFAULT_STACK_SIZE** 0x8000
- #define **PLATFORM_CALLING_CONV**

Typedefs

- typedef void * **decaf::internal::util::concurrent::PLATFORM_THREAD_ENTRY_ARG**
- typedef pthread_t **decaf::internal::util::concurrent::decaf_thread_t**
- typedef pthread_key_t **decaf::internal::util::concurrent::decaf_tls_key**
- typedef pthread_cond_t * **decaf::internal::util::concurrent::decaf_condition_t**
- typedef pthread_mutex_t * **decaf::internal::util::concurrent::decaf_mutex_t**
- typedef pthread_rwlock_t * **decaf::internal::util::concurrent::decaf_rwmutex_t**

7.382.1 Define Documentation

7.382.1.1 #define PLATFORM_CALLING_CONV

7.382.1.2 #define PLATFORM_DEFAULT_STACK_SIZE 0x8000

7.382.1.3 #define PLATFORM_THREAD_CALLBACK_TYPE void*

7.382.1.4 #define PLATFORM_THREAD_RETURN() return 0;

7.383 src/main/decaf/internal/util/concurrent/windows/PlatformDefs.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- struct **decaf::internal::util::concurrent::RWLOCK**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**

Defines

- #define **PLATFORM_THREAD_RETURN**() return 0;
- #define **PLATFORM_THREAD_CALLBACK_TYPE** unsigned
- #define **PLATFORM_DEFAULT_STACK_SIZE** 0x8000
- #define **PLATFORM_CALLING_CONV** __stdcall

7.383.1 Define Documentation

7.383.1.1 #define PLATFORM_CALLING_CONV __stdcall

7.383.1.2 #define PLATFORM_DEFAULT_STACK_SIZE 0x8000

7.383.1.3 #define PLATFORM_THREAD_CALLBACK_TYPE unsigned

7.383.1.4 #define PLATFORM_THREAD_RETURN() return 0;

7.384 src/main/decaf/internal/util/GenericResource.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/internal/util/Resource.h>
```

Data Structures

- class **decaf::internal::util::GenericResource< T >**

  A Generic ***Resource*** *(p. 2584) wraps some type and will delete it when the* ***Resource*** *(p. 2584) itself is deleted.*

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**

7.385 src/main/decaf/internal/util/HexStringParser.h File Reference

```
#include <decaf/util/Config.h>
#include <string>
```

Data Structures

- class **decaf::internal::util::HexStringParser**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**

7.386 src/main/decaf/internal/util/Resource.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::internal::util::Resource**

  Interface for all Managed Resources in Decaf, these objects are added to the Runtime System and are destroyed at shutdown.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**

7.387 src/main/decaf/internal/util/StringUtils.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::internal::util::StringUtils**

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**

Defines

- #define **STRINGUTILS_H_**

7.387.1 Define Documentation

7.387.1.1 #define STRINGUTILS_H_

7.388 src/main/decaf/internal/util/TimerTaskHeap.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/TimerTask.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **decaf::internal::util::TimerTaskHeap**

  A Binary Heap implemented specifically for the Timer class in Decaf Util.

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**

7.389 src/main/decaf/internal/util/zip/crc32.h File Reference

Variables

- local const unsigned long FAR **crc_table** [TBLS][256]

7.389.1 Variable Documentation

7.389.1.1 local const unsigned long FAR crc_table[TBLS][256]

7.390 src/main/decaf/internal/util/zip/deflate.h File Reference

```
#include "zutil.h"
```

Data Structures

- struct **ct_data_s**
- struct **tree_desc_s**
- struct **internal_state**

Defines

- #define **GZIP**
- #define **LENGTH_CODES** 29
- #define **LITERALS** 256
- #define **L_CODES** (LITERALS+1+LENGTH_CODES)
- #define **D_CODES** 30
- #define **BL_CODES** 19
- #define **HEAP_SIZE** (2*L_CODES+1)
- #define **MAX_BITS** 15
- #define **INIT_STATE** 42
- #define **EXTRA_STATE** 69
- #define **NAME_STATE** 73
- #define **COMMENT_STATE** 91
- #define **HCRC_STATE** 103
- #define **BUSY_STATE** 113
- #define **FINISH_STATE** 666
- #define **Freq** fc.freq
- #define **Code** fc.code
- #define **Dad** dl.dad
- #define **Len** dl.len
- #define **max_insert_length** max_lazy_match
- #define **put_byte**(s, c) {s->pending_buf[s->pending++] = (c);}
- #define **MIN_LOOKAHEAD** (MAX_MATCH+MIN_MATCH+1)
- #define **MAX_DIST**(s) ((s)->w_size-MIN_LOOKAHEAD)
- #define **WIN_INIT** MAX_MATCH
- #define **d_code**(dist) ((dist) < 256 ? **_dist_code**[dist] : **_dist_code**[256+((dist)>>7)])
- #define **_tr_tally_lit**(s, c, flush)
- #define **_tr_tally_dist**(s, distance, length, flush)

Typedefs

- typedef struct **ct_data_s ct_data**
- typedef struct static_tree_desc_s **static_tree_desc**
- typedef struct **tree_desc_s tree_desc**
- typedef **ush Pos**
- typedef **Pos** FAR **Posf**
- typedef unsigned **IPos**
- typedef struct **internal_state deflate_state**

Functions

- void ZLIB_INTERNAL _tr_init **OF** ((**deflate_state** *s))
- int ZLIB_INTERNAL _tr_tally **OF** ((**deflate_state** *s, unsigned dist, unsigned lc))
- void ZLIB_INTERNAL _tr_flush_block **OF** ((**deflate_state** *s, **charf** *buf, **ulg** stored_len, int last))

Variables

- **uch** ZLIB_INTERNAL **_length_code** []
- **uch** ZLIB_INTERNAL **_dist_code** []

7.390.1 Define Documentation

7.390.1.1 #define _tr_tally_dist(s, distance, length, flush)

Value:

```
{ uch len = (length); \
    ush dist = (distance); \
    s->d_buf[s->last_lit] = dist; \
    s->l_buf[s->last_lit++] = len; \
    dist--; \
    s->dyn_ltree[_length_code[len]+LITERALS+1].Freq++; \
    s->dyn_dtree[d_code(dist)].Freq++; \
    flush = (s->last_lit == s->lit_bufsize-1); \
  }
```

7.390.1.2 #define _tr_tally_lit(s, c, flush)

Value:

```
{ uch cc = (c); \
    s->d_buf[s->last_lit] = 0; \
    s->l_buf[s->last_lit++] = cc; \
    s->dyn_ltree[cc].Freq++; \
    flush = (s->last_lit == s->lit_bufsize-1); \
   }
```

7.390.1.3 #define BL_CODES 19

7.390.1.4 #define BUSY_STATE 113

7.390.1.5 #define Code fc.code

7.390.1.6 #define COMMENT_STATE 91

7.390.1.7 #define d_code(dist) ((dist) < 256 ? _dist_code[dist] : _dist_code[256+((dist)>>7)])

7.390.1.8 #define D_CODES 30

7.390.1.9 #define Dad dl.dad

7.390.1.10 #define EXTRA_STATE 69

7.390.1.11 #define FINISH_STATE 666

7.390.1.12 #define Freq fc.freq

7.390.1.13 #define GZIP

7.390.1.14 #define HCRC_STATE 103

7.390.1.15 #define HEAP_SIZE (2*L_CODES+1)

7.390.1.16 #define INIT_STATE 42

7.390.1.17 #define L_CODES (LITERALS+1+LENGTH_CODES)

7.390.1.18 #define Len dl.len

7.390.1.19 #define LENGTH_CODES 29

7.390.1.20 #define LITERALS 256

7.390.1.21 #define MAX_BITS 15

7.390.1.22 #define MAX_DIST(s) ((s)->w_size-MIN_LOOKAHEAD)

7.390.1.23 #define max_insert_length max_lazy_match

7.390.1.24 #define MIN_LOOKAHEAD (MAX_MATCH+MIN_MATCH+1)

7.390.1.25 #define NAME_STATE 73

7.390.1.26 #define put_byte(s, c) {s->pending_buf[s->pending++] = (c);}

7.390.1.27 #define WIN_INIT MAX_MATCH

7.390.2 Typedef Documentation

7.390.2.1 typedef struct ct_data_s ct_data

7.390.2.2 typedef struct internal_state deflate_state

7.390.2.3 typedef unsigned IPos

7.390.2.4 typedef ush Pos

7.391 src/main/decaf/internal/util/zip/gzguts.h File Reference

```
#include <stdio.h>
#include "zlib.h"
#include <fcntl.h>
```

Data Structures

- struct **gz_state**

Defines

- #define **ZLIB_INTERNAL**
- #define **local** static
- #define **zstrerror**() "stdio error (consult errno)"
- #define **GZBUFSIZE** 8192
- #define **GZ_NONE** 0
- #define **GZ_READ** 7247
- #define **GZ_WRITE** 31153
- #define **GZ_APPEND** 1
- #define **LOOK** 0
- #define **COPY** 1
- #define **GZIP** 2
- #define **GT_OFF**(x) (sizeof(int) == sizeof(z_off64_t) && (x) > gz_intmax())

Typedefs

- typedef **gz_state** FAR * **gz_statep**

Functions

- **voidp** malloc **OF** ((**uInt** size))
- void free **OF** ((**voidpf** ptr))
- ZEXTERN **gzFile** ZEXPORT gzopen64 **OF** ((const char *, const char *))
- ZEXTERN z_off64_t ZEXPORT gzseek64 **OF** ((**gzFile**, z_off64_t, int))
- ZEXTERN z_off64_t ZEXPORT gztell64 **OF** ((**gzFile**))
- void ZLIB_INTERNAL gz_error **OF** ((**gz_statep**, int, const char *))
- unsigned ZLIB_INTERNAL gz_intmax **OF** ((void))

7.391.1 Define Documentation

7.391.1.1 #define COPY 1

7.391.1.2 #define GT_OFF(x) (sizeof(int) == sizeof(z_off64_t) && (x) > gz_intmax())

7.391.1.3 #define GZ_APPEND 1

7.391.1.4 #define GZ_NONE 0

7.391.1.5 #define GZ_READ 7247

7.391.1.6 #define GZ_WRITE 31153

7.391.1.7 #define GZBUFSIZE 8192

7.391.1.8 #define GZIP 2

7.391.1.9 #define local static

7.391.1.10 #define LOOK 0

7.391.1.11 #define ZLIB_INTERNAL

7.391.1.12 #define zstrerror() "stdio error (consult errno)"

7.391.2 Typedef Documentation

7.391.2.1 typedef gz_state FAR* gz_statep

7.391.3 Function Documentation

7.391.3.1 unsigned ZLIB_INTERNAL gz_intmax OF ((void))

7.391.3.2 void ZLIB_INTERNAL gz_error OF ((gz_statep, int, const char *))

7.391.3.3 ZEXTERN z_off64_t ZEXPORT gztell64 OF ((gzFile))

7.391.3.4 ZEXTERN z_off64_t ZEXPORT gzseek64 OF ((gzFile, z_off64_t, int))

7.391.3.5 ZEXTERN gzFile ZEXPORT gzopen64 OF ((const char *, const char *))

7.391.3.6 void free OF ((voidpf ptr))

7.391.3.7 voidp malloc OF ((uInt size))

7.392 src/main/decaf/internal/util/zip/inffast.h File Reference

Functions

- void ZLIB_INTERNAL inflate_fast **OF** ((**z_streamp** strm, unsigned start))

7.392.1 Function Documentation

7.392.1.1 void ZLIB_INTERNAL inflate_fast OF ((z_streamp strm, unsigned start))

7.393 src/main/decaf/internal/util/zip/inffixed.h File Reference

7.394 src/main/decaf/internal/util/zip/inflate.h File Reference

Data Structures

- struct **inflate_state**

Defines

- #define **GUNZIP**

Enumerations

- enum **inflate_mode** {
  HEAD, **FLAGS**, **TIME**, **OS**,
  EXLEN, **EXTRA**, **NAME**, **COMMENT**,
  HCRC, **DICTID**, **DICT**, **TYPE**,
  TYPEDO, **STORED**, **COPY_**, **COPY**,
  TABLE, **LENLENS**, **CODELENS**, **LEN_**,
  LEN, **LENEXT**, **DIST**, **DISTEXT**,
  MATCH, **LIT**, **CHECK**, **LENGTH**,
  DONE, **BAD**, **MEM**, **SYNC** }

7.394.1 Define Documentation

7.394.1.1 #define GUNZIP

7.394.2 Enumeration Type Documentation

7.394.2.1 enum inflate_mode

Enumerator:

HEAD
FLAGS
TIME
OS
EXLEN
EXTRA
NAME
COMMENT
HCRC
DICTID
DICT
TYPE

TYPEDO
STORED
COPY_
COPY
TABLE
LENLENS
CODELENS
LEN_
LEN
LENEXT
DIST
DISTEXT
MATCH
LIT
CHECK
LENGTH
DONE
BAD
MEM
SYNC

7.395 src/main/decaf/internal/util/zip/inftrees.h File Reference

Data Structures

- struct **code**

Defines

- #define **ENOUGH_LENS** 852
- #define **ENOUGH_DISTS** 592
- #define **ENOUGH** (ENOUGH_LENS+ENOUGH_DISTS)

Enumerations

- enum **codetype** { **CODES**, **LENS**, **DISTS** }

Functions

- int ZLIB_INTERNAL inflate_table **OF** ((**codetype** type, unsigned short FAR *lens, unsigned codes, **code** FAR *FAR *table, unsigned FAR *bits, unsigned short FAR *work))

7.395.1 Define Documentation

7.395.1.1 #define ENOUGH (ENOUGH_LENS+ENOUGH_DISTS)

7.395.1.2 #define ENOUGH_DISTS 592

7.395.1.3 #define ENOUGH_LENS 852

7.395.2 Enumeration Type Documentation

7.395.2.1 enum codetype

Enumerator:

CODES

LENS

DISTS

7.395.3 Function Documentation

7.395.3.1 int ZLIB_INTERNAL inflate_table OF ((codetype type, unsigned short FAR *lens, unsigned codes, code FAR *FAR *table, unsigned FAR *bits, unsigned short FAR *work))

7.396 src/main/decaf/internal/util/zip/trees.h File Reference

Variables

- local const **ct_data static_ltree** [L_CODES+2]
- local const **ct_data static_dtree** [D_CODES]
- const **uch** ZLIB_INTERNAL **_dist_code** [DIST_CODE_LEN]
- const **uch** ZLIB_INTERNAL **_length_code** [MAX_MATCH-MIN_MATCH+1]
- local const int **base_length** [LENGTH_CODES]
- local const int **base_dist** [D_CODES]

7.396.1 Variable Documentation

7.396.1.1 const uch ZLIB_INTERNAL _dist_code[DIST_CODE_LEN]

Initial value:

```
{
 0,  1,  2,  3,  4,  4,  5,  5,  6,  6,  6,  6,  7,  7,  7,  7,  8,  8,  8,  8,
 8,  8,  8,  8,  9,  9,  9,  9,  9,  9,  9,  9, 10, 10, 10, 10, 10, 10, 10, 10,
10, 10, 10, 10, 10, 10, 10, 10, 11, 11, 11, 11, 11, 11, 11, 11, 11, 11, 11, 11,
11, 11, 11, 11, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12,
12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12, 13, 13, 13, 13,
13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13, 13,
13, 13, 13, 13, 13, 13, 13, 13, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14,
14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14,
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14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 14, 15, 15, 15, 15, 15, 15, 15, 15,
15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15,
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15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15,  0,  0, 16, 17,
18, 18, 19, 19, 20, 20, 20, 20, 21, 21, 21, 21, 22, 22, 22, 22, 22, 22, 22, 22,
23, 23, 23, 23, 23, 23, 23, 23, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24,
24, 24, 24, 24, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25,
26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26,
26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 27, 27, 27, 27, 27, 27, 27, 27,
27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27,
27, 27, 27, 27, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28,
28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28,
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28, 28, 28, 28, 28, 28, 28, 28, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29,
29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29,
29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29,
29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29, 29
}
```

7.396.1.2 const uch ZLIB_INTERNAL _length_code[MAX_MATCH-MIN_MATCH+1]

Initial value:

```
{
 0,  1,  2,  3,  4,  5,  6,  7,  8,  8,  9,  9, 10, 10, 11, 11, 12, 12, 12, 12,
13, 13, 13, 13, 14, 14, 14, 14, 15, 15, 15, 15, 16, 16, 16, 16, 16, 16, 16, 16,
17, 17, 17, 17, 17, 17, 17, 17, 18, 18, 18, 18, 18, 18, 18, 18, 19, 19, 19, 19,
19, 19, 19, 19, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20,
```

```
21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 22, 22, 22, 22,
22, 22, 22, 22, 22, 22, 22, 22, 22, 22, 22, 22, 23, 23, 23, 23, 23, 23, 23, 23,
23, 23, 23, 23, 23, 23, 23, 23, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24,
24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24, 24,
25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25,
25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 25, 26, 26, 26, 26, 26, 26, 26, 26,
26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26, 26,
26, 26, 26, 26, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27,
27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 27, 28
}
```

7.396.1.3 local const int base_dist[D_CODES]

Initial value:

```
 {
    0,     1,     2,     3,     4,     6,     8,    12,    16,    24,
   32,    48,    64,    96,   128,   192,   256,   384,   512,   768,
 1024,  1536,  2048,  3072,  4096,  6144,  8192, 12288, 16384, 24576
}
```

7.396.1.4 local const int base_length[LENGTH_CODES]

Initial value:

```
 {
0, 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 16, 20, 24, 28, 32, 40, 48, 56,
64, 80, 96, 112, 128, 160, 192, 224, 0
}
```

7.396.1.5 local const ct_data static_dtree[D_CODES]

Initial value:

```
 {
{{ 0},{ 5}}, {{16},{ 5}}, {{ 8},{ 5}}, {{24},{ 5}}, {{ 4},{ 5}},
{{20},{ 5}}, {{12},{ 5}}, {{28},{ 5}}, {{ 2},{ 5}}, {{18},{ 5}},
{{10},{ 5}}, {{26},{ 5}}, {{ 6},{ 5}}, {{22},{ 5}}, {{14},{ 5}},
{{30},{ 5}}, {{ 1},{ 5}}, {{17},{ 5}}, {{ 9},{ 5}}, {{25},{ 5}},
{{ 5},{ 5}}, {{21},{ 5}}, {{13},{ 5}}, {{29},{ 5}}, {{ 3},{ 5}},
{{19},{ 5}}, {{11},{ 5}}, {{27},{ 5}}, {{ 7},{ 5}}, {{23},{ 5}}
}
```

7.396.1.6 local const ct_data static_ltree[L_CODES+2]

7.397 src/main/decaf/internal/util/zip/zconf.h File Reference

```
#include <decaf/util/Config.h>
```

Defines

- #define **const**
- #define **MAX_MEM_LEVEL** 9
- #define **MAX_WBITS** 15
- #define **OF**(args) ()
- #define **ZEXTERN** extern
- #define **SEEK_SET** 0
- #define **SEEK_CUR** 1
- #define **SEEK_END** 2
- #define **z_off_t** long
- #define **z_off64_t** z_off_t

Typedefs

- typedef unsigned char **Byte**
- typedef unsigned int **uInt**
- typedef unsigned long **uLong**
- typedef **Byte** FAR **Bytef**
- typedef char FAR **charf**
- typedef int FAR **intf**
- typedef **uInt** FAR **uIntf**
- typedef **uLong** FAR **uLongf**
- typedef **Byte** const * **voidpc**
- typedef **Byte** FAR * **voidpf**
- typedef **Byte** * **voidp**

7.397.1 Define Documentation

7.397.1.1 #define const

7.397.1.2 #define MAX_MEM_LEVEL 9

7.397.1.3 #define MAX_WBITS 15

7.397.1.4 #define OF(args) ()

7.397.1.5 #define SEEK_CUR 1

7.397.1.6 #define SEEK_END 2

7.397.1.7 #define SEEK_SET 0

7.397.1.8 #define z_off64_t z_off_t

7.397.1.9 #define z_off_t long

7.397.1.10 #define ZEXTERN extern

7.397.2 Typedef Documentation

7.397.2.1 typedef unsigned char Byte

7.397.2.2 typedef Byte FAR Bytef

7.397.2.3 typedef char FAR charf

7.397.2.4 typedef int FAR intf

7.397.2.5 typedef unsigned int uInt

7.397.2.6 typedef uInt FAR uIntf

7.397.2.7 typedef unsigned long uLong

7.397.2.8 typedef uLong FAR uLongf

7.397.2.9 typedef Byte* voidp

7.397.2.10 typedef Byte const* voidpc

7.397.2.11 typedef Byte FAR* voidpf

7.398 src/main/decaf/internal/util/zip/zlib.h File Reference

```
#include "zconf.h"
```

Data Structures

- struct **z_stream_s**
- struct **gz_header_s**
- struct **internal_state**

Defines

- #define **ZLIB_VERSION** "1.2.5"
- #define **ZLIB_VERNUM** 0x1250
- #define **ZLIB_VER_MAJOR** 1
- #define **ZLIB_VER_MINOR** 2
- #define **ZLIB_VER_REVISION** 5
- #define **ZLIB_VER_SUBREVISION** 0
- #define **Z_NO_FLUSH** 0
- #define **Z_PARTIAL_FLUSH** 1
- #define **Z_SYNC_FLUSH** 2
- #define **Z_FULL_FLUSH** 3
- #define **Z_FINISH** 4
- #define **Z_BLOCK** 5
- #define **Z_TREES** 6
- #define **Z_OK** 0
- #define **Z_STREAM_END** 1
- #define **Z_NEED_DICT** 2
- #define **Z_ERRNO** (-1)
- #define **Z_STREAM_ERROR** (-2)
- #define **Z_DATA_ERROR** (-3)
- #define **Z_MEM_ERROR** (-4)
- #define **Z_BUF_ERROR** (-5)
- #define **Z_VERSION_ERROR** (-6)
- #define **Z_NO_COMPRESSION** 0
- #define **Z_BEST_SPEED** 1
- #define **Z_BEST_COMPRESSION** 9
- #define **Z_DEFAULT_COMPRESSION** (-1)
- #define **Z_FILTERED** 1
- #define **Z_HUFFMAN_ONLY** 2
- #define **Z_RLE** 3
- #define **Z_FIXED** 4
- #define **Z_DEFAULT_STRATEGY** 0
- #define **Z_BINARY** 0
- #define **Z_TEXT** 1
- #define **Z_ASCII** Z_TEXT
- #define **Z_UNKNOWN** 2
- #define **Z_DEFLATED** 8

- #define **Z_NULL** 0
- #define **zlib_version** zlibVersion()
- #define **deflateInit**(strm, level) deflateInit_((strm), (level), ZLIB_VERSION, sizeof(**z_stream**))
- #define **inflateInit**(strm) inflateInit_((strm), ZLIB_VERSION, sizeof(**z_stream**))
- #define **deflateInit2**(strm, level, method, windowBits, memLevel, strategy)
- #define **inflateInit2**(strm, windowBits) inflateInit2_((strm), (windowBits), ZLIB_VERSION, sizeof(**z_stream**))
- #define **inflateBackInit**(strm, windowBits, window)

Typedefs

- typedef **voidpf** alloc_func **OF** ((**voidpf** opaque, **uInt** items, **uInt** size))
- typedef struct **z_stream_s** **z_stream**
- typedef **z_stream** FAR * **z_streamp**
- typedef struct **gz_header_s** **gz_header**
- typedef **gz_header** FAR * **gz_headerp**
- typedef **voidp** **gzFile**

Functions

- ZEXTERN const char *ZEXPORT zlibVersion **OF** ((void))
- ZEXTERN int ZEXPORT deflate **OF** ((**z_streamp** strm, int flush))
- ZEXTERN int ZEXPORT deflateEnd **OF** ((**z_streamp** strm))
- ZEXTERN int ZEXPORT deflateSetDictionary **OF** ((**z_streamp** strm, const **Bytef** *dictionary, uIntdictLength))
- ZEXTERN int ZEXPORT deflateCopy **OF** ((**z_streamp** dest, **z_streamp** source))
- ZEXTERN int ZEXPORT deflateParams **OF** ((**z_streamp** strm, int level, int strategy))
- ZEXTERN int ZEXPORT deflateTune **OF** ((**z_streamp** strm, int good_length, int max_lazy, int nice_length, int max_chain))
- ZEXTERN **uLong** ZEXPORT deflateBound **OF** ((**z_streamp** strm, **uLong** sourceLen))
- ZEXTERN int ZEXPORT deflatePrime **OF** ((**z_streamp** strm, int bits, int value))
- ZEXTERN int ZEXPORT deflateSetHeader **OF** ((**z_streamp** strm, **gz_headerp** head))
- ZEXTERN int ZEXPORT inflateReset2 **OF** ((**z_streamp** strm, int windowBits))
- ZEXTERN int ZEXPORT inflateBack **OF** ((**z_streamp** strm, in_func in, void FAR *in_desc, out_func out, void FAR *out_desc))
- ZEXTERN int ZEXPORT compress **OF** ((**Bytef** *dest, **uLongf** *destLen, const **Bytef** *source, **uLong** sourceLen))
- ZEXTERN int ZEXPORT compress2 **OF** ((**Bytef** *dest, **uLongf** *destLen, const **Bytef** *source, **uLong** sourceLen, int level))
- ZEXTERN **uLong** ZEXPORT compressBound **OF** ((**uLong** sourceLen))
- ZEXTERN **gzFile** ZEXPORT gzdopen **OF** ((int fd, const char *mode))
- ZEXTERN int ZEXPORT gzbuffer **OF** ((**gzFile** file, unsigned size))
- ZEXTERN int ZEXPORT gzsetparams **OF** ((**gzFile** file, int level, int strategy))
- ZEXTERN int ZEXPORT gzread **OF** ((**gzFile** file, **voidp** buf, unsigned len))
- ZEXTERN int ZEXPORT gzwrite **OF** ((**gzFile** file, **voidpc** buf, unsigned len))
- ZEXTERN int ZEXPORTVA gzprintf **OF** ((**gzFile** file, const char *format,...))
- ZEXTERN int ZEXPORT gzputs **OF** ((**gzFile** file, const char *s))
- ZEXTERN char *ZEXPORT gzgets **OF** ((**gzFile** file, char *buf, int len))
- ZEXTERN int ZEXPORT gzputc **OF** ((**gzFile** file, int c))

- ZEXTERN int ZEXPORT gzgetc **OF** ((**gzFile** file))
- ZEXTERN int ZEXPORT gzungetc **OF** ((int c, **gzFile** file))
- ZEXTERN int ZEXPORT gzflush **OF** ((**gzFile** file, int flush))
- ZEXTERN const char *ZEXPORT gzerror **OF** ((**gzFile** file, int *errnum))
- ZEXTERN **uLong** ZEXPORT adler32 **OF** ((**uLong** adler, const **Bytef** *buf, **uInt** len))
- ZEXTERN **uLong** ZEXPORT crc32 **OF** ((**uLong** crc, const **Bytef** *buf, **uInt** len))
- ZEXTERN int ZEXPORT deflateInit_ **OF** ((**z_streamp** strm, int level, const char *version, int stream_size))
- ZEXTERN int ZEXPORT inflateInit_ **OF** ((**z_streamp** strm, const char *version, int stream_size))
- ZEXTERN int ZEXPORT deflateInit2_ **OF** ((**z_streamp** strm, intlevel, intmethod, int windowBits, int memLevel, int strategy, const char *version, int stream_size))
- ZEXTERN int ZEXPORT inflateInit2_ **OF** ((**z_streamp** strm, intwindowBits, const char *version, int stream_size))
- ZEXTERN int ZEXPORT inflateBackInit_ **OF** ((**z_streamp** strm, int windowBits, unsigned char FAR *window, const char *version, int stream_size))
- ZEXTERN **gzFile** ZEXPORT gzopen **OF** ((const char *, const char *))
- ZEXTERN z_off_t ZEXPORT gzseek **OF** ((**gzFile**, z_off_t, int))
- ZEXTERN z_off_t ZEXPORT gztell **OF** ((**gzFile**))
- ZEXTERN **uLong** ZEXPORT adler32_combine **OF** ((**uLong**, **uLong**, z_off_t))
- ZEXTERN const char *ZEXPORT zError **OF** ((int))
- ZEXTERN int ZEXPORT inflateSyncPoint **OF** ((**z_streamp**))
- ZEXTERN int ZEXPORT inflateUndermine **OF** ((**z_streamp**, int))

7.398.1 Define Documentation

7.398.1.1 #define deflateInit(strm, level) deflateInit_((strm), (level), ZLIB_VERSION, sizeof(z_stream))

7.398.1.2 #define deflateInit2(strm, level, method, windowBits, memLevel, strategy)

Value:

```
deflateInit2_((strm),(level),(method),(windowBits),(memLevel),\
                      (strategy),           ZLIB_VERSION, sizeof(z_stream))
```

7.398.1.3 #define inflateBackInit(strm, windowBits, window)

Value:

```
inflateBackInit_((strm), (windowBits), (window), \
                                          ZLIB_VERSION, sizeof(z_stream))
```

7.398.1.4 #define inflateInit(strm) inflateInit_((strm), ZLIB_VERSION, sizeof(z_stream))

7.398.1.5 #define inflateInit2(strm, windowBits) inflateInit2_((strm), (windowBits), ZLIB_VERSION, sizeof(z_stream))

7.398.1.6 #define Z_ASCII Z_TEXT

7.398.1.7 #define Z_BEST_COMPRESSION 9

7.398.1.8 #define Z_BEST_SPEED 1

7.398.1.9 #define Z_BINARY 0

7.398.1.10 #define Z_BLOCK 5

7.398.1.11 #define Z_BUF_ERROR (-5)

7.398.1.12 #define Z_DATA_ERROR (-3)

7.398.1.13 #define Z_DEFAULT_COMPRESSION (-1)

7.398.1.14 #define Z_DEFAULT_STRATEGY 0

7.398.1.15 #define Z_DEFLATED 8

7.398.1.16 #define Z_ERRNO (-1)

7.398.1.17 #define Z_FILTERED 1

7.398.1.18 #define Z_FINISH 4

7.398.1.19 #define Z_FIXED 4

7.398.1.20 #define Z_FULL_FLUSH 3

7.398.1.21 #define Z_HUFFMAN_ONLY 2

7.398.1.22 #define Z_MEM_ERROR (-4)

7.398.1.23 #define Z_NEED_DICT 2

7.398.1.24 #define Z_NO_COMPRESSION 0

7.398.1.25 #define Z_NO_FLUSH 0

7.398.1.26 #define Z_NULL 0

7.398.1.27 #define Z_OK 0

7.398.1.28 #define Z_PARTIAL_FLUSH 1

7.398.1.29 #define Z_RLE 3

7.398.1.30 #define Z_STREAM_END 1

7.398.1.31 #define Z_STREAM_ERROR (-2)

7.398.1.32 #define Z_SYNC_FLUSH 2

7.398.1.33 #define Z_TEXT 1

7.399 src/main/decaf/internal/util/zip/zutil.h File Reference

```
#include "zlib.h"
```

Defines

- #define **ZLIB_INTERNAL**
- #define **ERR_MSG**(err) **z_errmsg**[Z_NEED_DICT-(err)]
- #define **ERR_RETURN**(strm, err) return (strm->msg = (char*)ERR_MSG(err), (err))
- #define **DEF_WBITS** MAX_WBITS
- #define **DEF_MEM_LEVEL** 8
- #define **STORED_BLOCK** 0
- #define **STATIC_TREES** 1
- #define **DYN_TREES** 2
- #define **MIN_MATCH** 3
- #define **MAX_MATCH** 258
- #define **PRESET_DICT** 0x20
- #define **OS_CODE** 0x03
- #define **F_OPEN**(name, mode) fopen((name), (mode))
- #define **Assert**(cond, msg)
- #define **Trace**(x)
- #define **Tracev**(x)
- #define **Tracevv**(x)
- #define **Tracec**(c, x)
- #define **Tracecv**(c, x)
- #define **ZALLOC**(strm, items, size) (*((strm)->zalloc))((strm)->opaque, (items), (size))
- #define **ZFREE**(strm, addr) (*((strm)->zfree))((strm)->opaque, (**voidpf**)(addr))
- #define **TRY_FREE**(s, p) {if (p) ZFREE(s, p);}

Typedefs

- typedef unsigned char **uch**
- typedef **uch** FAR **uchf**
- typedef unsigned short **ush**
- typedef **ush** FAR **ushf**
- typedef unsigned long **ulg**

Functions

- ZEXTERN **uLong** ZEXPORT adler32_combine64 **OF** ((**uLong**, **uLong**, z_off_t))
- void ZLIB_INTERNAL zmemcpy **OF** ((**Bytef** *dest, const **Bytef** *source, **uInt** len))
- int ZLIB_INTERNAL zmemcmp **OF** ((const **Bytef** *s1, const **Bytef** *s2, **uInt** len))
- void ZLIB_INTERNAL zmemzero **OF** ((**Bytef** *dest, **uInt** len))
- **voidpf** ZLIB_INTERNAL zcalloc **OF** ((**voidpf** opaque, unsigned items, unsigned size))
- void ZLIB_INTERNAL zcfree **OF** ((**voidpf** opaque, **voidpf** ptr))

Variables

- const char *const **z_errmsg** [10]

7.399.1 Define Documentation

7.399.1.1 #define Assert(cond, msg)

7.399.1.2 #define DEF_MEM_LEVEL 8

7.399.1.3 #define DEF_WBITS MAX_WBITS

7.399.1.4 #define DYN_TREES 2

7.399.1.5 #define ERR_MSG(err) z_errmsg[Z_NEED_DICT-(err)]

7.399.1.6 #define ERR_RETURN(strm, err) return (strm->msg = (char*)ERR_MSG(err), (err))

7.399.1.7 #define F_OPEN(name, mode) fopen((name), (mode))

7.399.1.8 #define MAX_MATCH 258

7.399.1.9 #define MIN_MATCH 3

7.399.1.10 #define OS_CODE 0x03

7.399.1.11 #define PRESET_DICT 0x20

7.399.1.12 #define STATIC_TREES 1

7.399.1.13 #define STORED_BLOCK 0

7.399.1.14 #define Trace(x)

7.399.1.15 #define Tracec(c, x)

7.399.1.16 #define Tracecv(c, x)

7.399.1.17 #define Tracev(x)

7.399.1.18 #define Tracevv(x)

7.399.1.19 #define TRY_FREE(s, p) {if (p) ZFREE(s, p);}

7.399.1.20 #define ZALLOC(strm, items, size) (*((strm)->zalloc))((strm)->opaque, (items), (size))

7.399.1.21 #define ZFREE(strm, addr) (*((strm)->zfree))((strm)->opaque, (voidpf)(addr))

7.399.1.22 #define ZLIB_INTERNAL

7.399.2 Typedef Documentation

7.399.2.1 typedef unsigned char uch

7.399.2.2 typedef uch FAR uchf

7.399.2.3 typedef unsigned long ulg

7.399.2.4 typedef unsigned short ush

7.399.2.5 typedef ush FAR ushf

7.400 src/main/decaf/io/BlockingByteArrayInputStream.h File Reference

```
#include <decaf/io/InputStream.h>
#include <vector>
```

Data Structures

- class **decaf::io::BlockingByteArrayInputStream**

  This is a blocking version of a byte buffer stream.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.401 src/main/decaf/io/BufferedInputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/FilterInputStream.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **decaf::io::BufferedInputStream**

  A wrapper around another input stream that performs a buffered read, where it reads more data than it needs in order to reduce the number of ***io*** *(*p. 109*) operations on the input stream.*

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.402 src/main/decaf/io/BufferedOutputStream.h File Reference

```
#include <decaf/io/FilterOutputStream.h>
```

```
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **decaf::io::BufferedOutputStream**

  Wrapper around another output stream that buffers output before writing to the target output stream.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.403 src/main/decaf/io/ByteArrayInputStream.h File Reference

```
#include <decaf/io/InputStream.h>
#include <decaf/util/concurrent/Mutex.h>
#include <vector>
```

Data Structures

- class **decaf::io::ByteArrayInputStream**

  *A **ByteArrayInputStream** (p. 817) contains an **internal** (p. 96) buffer that contains bytes that may be read from the stream.*

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.404 src/main/decaf/io/ByteArrayOutputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/OutputStream.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <utility>
```

Data Structures

- class **decaf::io::ByteArrayOutputStream**

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.405 src/main/decaf/io/DataInput.h File Reference

```
#include <decaf/util/Config.h>
#include <vector>
#include <string>
#include <decaf/io/IOException.h>
#include <decaf/io/EOFException.h>
#include <decaf/io/UTFDataFormatException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::io::DataInput**

  *The **DataInput** (p. 1249) interface provides for reading bytes from a binary stream and reconstructing from them data in any of the C++ primitive types.*

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.406 src/main/decaf/io/DataInputStream.h File Reference

```
#include <decaf/io/FilterInputStream.h>
#include <decaf/io/IOException.h>
#include <decaf/io/EOFException.h>
#include <decaf/io/UTFDataFormatException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::io::DataInputStream**

  A data input stream lets an application read primitive Java data types from an underlying input stream in a machine-independent way.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.407 src/main/decaf/io/DataOutput.h File Reference

```
#include <decaf/util/Config.h>
#include <vector>
#include <string>
#include <decaf/io/IOException.h>
#include <decaf/io/EOFException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::io::DataOutput**

  *The **DataOutput** (p. 1265) interface provides for converting data from any of the C++ primitive types to a series of bytes and writing these bytes to a binary stream.*

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.408 src/main/decaf/io/DataOutputStream.h File Reference

```
#include <decaf/io/FilterOutputStream.h>
#include <decaf/io/IOException.h>
#include <decaf/io/UTFDataFormatException.h>
#include <string>
```

Data Structures

- class **decaf::io::DataOutputStream**

  A data output stream lets an application write primitive Java data types to an output stream in a portable way.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.409 src/main/decaf/io/EOFException.h File Reference

```
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::io::EOFException**

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.410 src/main/decaf/io/FileDescriptor.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::io::FileDescriptor**

  This class servers as an opaque wrapper around an underlying OS level resource that can be used as a source / sink for byte level data such as sockets and files.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.411 src/main/decaf/io/FilterInputStream.h File Reference

```
#include <decaf/io/InputStream.h>
#include <decaf/io/IOException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::io::FilterInputStream**

  *A **FilterInputStream** (p. 1508) contains some other input stream, which it uses as its basic source of data, possibly transforming the data along the way or providing additional functionality.*

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.412 src/main/decaf/io/FilterOutputStream.h File Reference

```
#include <decaf/io/OutputStream.h>
#include <decaf/io/IOException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::io::FilterOutputStream**

  This class is the superclass of all classes that filter output streams.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.413 src/main/decaf/io/Flushable.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::io::Flushable**

  *A **Flushable** (p. 1548) is a destination of data that can be flushed.*

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.414 src/main/decaf/io/InputStream.h File Reference

```
#include <decaf/io/IOException.h>
#include <decaf/io/Closeable.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::io::InputStream**

  A base class that must be implemented by all classes wishing to provide a class that reads in a stream of bytes.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.415 src/main/decaf/io/InputStreamReader.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/Reader.h>
```

Data Structures

- class **decaf::io::InputStreamReader**

  *An **InputStreamReader** (p. 1704) is a bridge from byte streams to character streams.*

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.416 src/main/decaf/io/InterruptedIOException.h File Reference

```
#include <decaf/lang/Exception.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::io::InterruptedIOException**

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.417 src/main/decaf/io/IOException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::io::IOException**

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.418 src/main/decaf/io/OutputStream.h File Reference

```
#include <decaf/io/Closeable.h>
#include <decaf/io/Flushable.h>
#include <decaf/io/IOException.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::io::OutputStream**

  Base interface for any class that wants to represent an output stream of bytes.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.419 src/main/decaf/io/OutputStreamWriter.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/Writer.h>
```

Data Structures

- class **decaf::io::OutputStreamWriter**

  A class for turning a character stream into a byte stream.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.420 src/main/decaf/io/PushbackInputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/InputStream.h>
#include <decaf/io/FilterInputStream.h>
```

Data Structures

- class **decaf::io::PushbackInputStream**

  *A **PushbackInputStream** (p. 2493) adds functionality to another input stream, namely the ability to "push back" or "unread" one byte.*

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.421 src/main/decaf/io/Reader.h File Reference

```
#include <string>
#include <decaf/lang/Readable.h>
#include <decaf/io/Closeable.h>
#include <decaf/io/IOException.h>
#include <decaf/io/InputStream.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
```

Data Structures

- class **decaf::io::Reader**

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.422 src/main/decaf/io/UnsupportedEncodingException.h File Reference

```
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::io::UnsupportedEncodingException**

  Thrown when the the Character Encoding is not supported.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.423 src/main/decaf/io/UTFDataFormatException.h File Reference

```
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::io::UTFDataFormatException**

  Thrown from classes that attempt to read or write a UTF-8 encoded string and an encoding error is encountered.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.424 src/main/decaf/io/Writer.h File Reference

```
#include <string>
#include <vector>
#include <decaf/io/IOException.h>
#include <decaf/io/Closeable.h>
#include <decaf/io/Flushable.h>
#include <decaf/lang/Appendable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::io::Writer**

Namespaces

- namespace **decaf**

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- namespace **decaf::io**

7.425 src/main/decaf/lang/Appendable.h File Reference

```
#include <decaf/lang/Exception.h>
```

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Appendable**

  An object to which char sequences and values can be appended.

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.426 src/main/decaf/lang/ArrayPointer.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/System.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/util/concurrent/atomic/AtomicInteger.h>
#include <decaf/util/Comparator.h>
#include <decaf/util/Arrays.h>
#include <memory>
#include <typeinfo>
#include <algorithm>
```

Data Structures

- class **decaf::lang::ArrayPointer< T >**

  *Decaf's implementation of a Smart **Pointer** (p. 2355) that is a template on a Type and is **Thread** (p. 3000) Safe if the default Reference Counter is used.*

- struct **decaf::lang::ArrayPointer< T >::ArrayData**
- class **decaf::lang::ArrayPointerComparator< T >**

  *This implementation of Comparator is designed to allows objects in a Collection to be sorted or tested for equality based on the value of the value of the actual pointer to the array being contained in this **ArrayPointer** (p. 593).*

- struct **std::less< decaf::lang::ArrayPointer< T > >**

  An override of the less function object so that the Pointer objects can be stored in STL Maps, etc.

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **std**

Functions

- template<typename T , typename U >
  bool **decaf::lang::operator==** (const ArrayPointer< T > &left, const U *right)
- template<typename T , typename U >
  bool **decaf::lang::operator==** (const U *left, const ArrayPointer< T > &right)

- template<typename T , typename U >
  bool **decaf::lang::operator!=** (const ArrayPointer< T > &left, const U *right)
- template<typename T , typename U >
  bool **decaf::lang::operator!=** (const U *left, const ArrayPointer< T > &right)

7.427 src/main/decaf/lang/Boolean.h File Reference

```
#include <string>
#include <decaf/lang/Comparable.h>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Boolean**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.428 src/main/decaf/lang/Byte.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Number.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NumberFormatException.h>
#include <string>
```

Data Structures

- class **decaf::lang::Byte**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.429 src/main/decaf/lang/Character.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Number.h>
#include <decaf/lang/Comparable.h>
#include <string>
```

Data Structures

- class **decaf::lang::Character**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.430 src/main/decaf/lang/CharSequence.h File Reference

```
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::CharSequence**

  *A **CharSequence** (p. 943) is a readable sequence of char values.*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.431 src/main/decaf/lang/Comparable.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Comparable< T >**

  This interface imposes a total ordering on the objects of each class that implements it.

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.432 src/main/decaf/lang/Double.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/Number.h>
#include <decaf/lang/exceptions/NumberFormatException.h>
#include <string>
```

Data Structures

- class **decaf::lang::Double**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.433 src/main/decaf/lang/Exception.h File Reference

```
#include <decaf/lang/Throwable.h>
#include <decaf/lang/exceptions/ExceptionDefines.h>
#include <decaf/util/Config.h>
#include <stdarg.h>
#include <sstream>
```

Data Structures

- class **decaf::lang::Exception**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.434 src/main/decaf/lang/exceptions/ClassCastException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::ClassCastException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.435 src/main/decaf/lang/exceptions/CloneNotSupportedException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::CloneNotSupportedException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.436 src/main/decaf/lang/exceptions/IllegalArgumentException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::IllegalArgumentException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.437 src/main/decaf/lang/exceptions/IllegalMonitorStateException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::IllegalMonitorStateException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.438 src/main/decaf/lang/exceptions/IllegalThreadStateException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::IllegalThreadStateException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.439 src/main/decaf/lang/exceptions/IndexOutOfBoundsException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::IndexOutOfBoundsException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.440 src/main/decaf/lang/exceptions/InterruptedException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::InterruptedException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.441 src/main/decaf/lang/exceptions/InvalidStateException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::InvalidStateException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.442 src/main/decaf/lang/exceptions/NegativeArraySizeException.h File Reference

```
#include <decaf/lang/exceptions/RuntimeException.h>
```

Data Structures

- class **decaf::lang::exceptions::NegativeArraySizeException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.443 src/main/decaf/lang/exceptions/NullPointerException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::NullPointerException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.444 src/main/decaf/lang/exceptions/NumberFormatException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::NumberFormatException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.445 src/main/decaf/lang/exceptions/OutOfMemoryError.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::OutOfMemoryError**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.446 src/main/decaf/lang/exceptions/RuntimeException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::lang::exceptions::RuntimeException**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::lang::exceptions**

7.447 src/main/decaf/lang/Float.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Number.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NumberFormatException.h>
#include <string>
```

Data Structures

- class **decaf::lang::Float**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.448 src/main/decaf/lang/Integer.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Number.h>
#include <decaf/lang/Comparable.h>
#include <string>
#include <decaf/lang/exceptions/NumberFormatException.h>
```

Data Structures

- class **decaf::lang::Integer**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.449 src/main/decaf/lang/Iterable.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/util/Iterator.h>
```

Data Structures

- class **decaf::lang::Iterable< E >**

  Implementing this interface allows an object to be cast to an ***Iterable*** *(*p. *1786**) type for generic collections API calls.*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.450 src/main/decaf/lang/Long.h File Reference

```
#include <decaf/lang/Number.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NumberFormatException.h>
#include <string>
```

Data Structures

- class **decaf::lang::Long**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.451 src/main/decaf/lang/Math.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Math**

  The class `Math` *(p. 2030) contains methods for performing basic numeric operations such as the elementary exponential, logarithm, square root, and trigonometric functions.*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.452 src/main/decaf/lang/Number.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Number**

  *The abstract class **Number** (p. 2256) is the superclass of classes **Byte** (p. 760), **Double** (p. 1402), **Float** (p. 1518), **Integer** (p. 1725), **Long** (p. 1954), and **Short** (p. 2706).*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.453 src/main/decaf/lang/Pointer.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/ClassCastException.h>
#include <decaf/util/concurrent/atomic/AtomicRefCounter.h>
#include <decaf/util/Comparator.h>
#include <memory>
#include <typeinfo>
#include <algorithm>
#include <functional>
```

Data Structures

- struct **decaf::lang::STATIC_CAST_TOKEN**
- struct **decaf::lang::DYNAMIC_CAST_TOKEN**
- class **decaf::lang::Pointer< T, REFCOUNTER >**

  *Decaf's implementation of a Smart **Pointer** (p. 2355) that is a template on a Type and is **Thread** (p. 3000) Safe if the default Reference Counter is used.*

- class **decaf::lang::PointerComparator< T, R >**

  *This implementation of Comparator is designed to allows objects in a Collection to be sorted or tested for equality based on the value of the Object being Pointed to and not the value of the contained pointer in the **Pointer** (p. 2355) instance.*

- struct **std::less< decaf::lang::Pointer< T > >**

  An override of the less function object so that the Pointer objects can be stored in STL Maps, etc.

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **std**

Functions

- template<typename T , typename R , typename U >
  bool **decaf::lang::operator==** (const Pointer< T, R > &left, const U *right)
- template<typename T , typename R , typename U >
  bool **decaf::lang::operator==** (const U *left, const Pointer< T, R > &right)
- template<typename T , typename R , typename U >
  bool **decaf::lang::operator!=** (const Pointer< T, R > &left, const U *right)

- template<typename T , typename R , typename U >
  bool **decaf::lang::operator!=** (const U *left, const Pointer< T, R > &right)
- template<typename T , typename R >
  std::ostream & **decaf::lang::operator<<** (std::ostream &out, const Pointer< T, R > &pointer)

7.454 src/main/decaf/lang/Readable.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
```

Data Structures

- class **decaf::lang::Readable**

  *A **Readable** (p. 2511) is a source of characters.*

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**
- namespace **decaf::lang**

7.455 src/main/decaf/lang/Runnable.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Runnable**

  Interface for a runnable object - defines a task that can be run by a thread.

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.456 src/main/decaf/lang/Runtime.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Runtime**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.457 src/main/decaf/lang/Short.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Number.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NumberFormatException.h>
#include <string>
```

Data Structures

- class **decaf::lang::Short**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.458 src/main/decaf/lang/String.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/CharSequence.h>
#include <decaf/lang/Comparable.h>
#include <string>
```

Data Structures

- class **decaf::lang::String**

  *The **String** (p. 2919) class represents an immutable sequence of chars.*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.459 src/main/decaf/lang/System.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/Map.h>
#include <decaf/util/Properties.h>
#include <decaf/lang/Exception.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/internal/AprPool.h>
#include <string>
```

Data Structures

- class **decaf::lang::System**

  *The **System** (p. 2963) class provides static methods for accessing system level resources and performing some system dependent tasks such as looking up environment values and copying memory and arrays.*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.460 src/main/decaf/lang/Thread.h File Reference

```
#include <decaf/lang/exceptions/IllegalThreadStateException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/lang/exceptions/RuntimeException.h>
#include <decaf/lang/Exception.h>
#include <decaf/lang/Runnable.h>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Thread**

  *A **Thread** (p. 3000) is a concurrent unit of execution.*

- class **decaf::lang::Thread::UncaughtExceptionHandler**

  *Interface for handlers invoked when a **Thread** (p. 3000) abruptly terminates due to an uncaught exception.*

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::internal::util::concurrent**
- namespace **decaf::lang**

7.461 src/main/decaf/lang/ThreadGroup.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::ThreadGroup**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.462 src/main/decaf/lang/ThreadLocal.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/internal/util/concurrent/ThreadLocalImpl.h>
```

Data Structures

- class **decaf::lang::ThreadLocal< E >**

  This class provides thread-local variables.

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.463 src/main/decaf/lang/Throwable.h File Reference

```
#include <string>
#include <vector>
#include <iostream>
#include <exception>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Throwable**

  This class represents an error that has occurred.

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.464 src/main/decaf/lang/Types.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::lang::Types**

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**

7.465 src/main/decaf/net/BindException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/SocketException.h>
```

Data Structures

- class **decaf::net::BindException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.466 src/main/decaf/net/ConnectException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/SocketException.h>
```

Data Structures

- class **decaf::net::ConnectException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.467 src/main/decaf/net/DatagramPacket.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/Inet4Address.h>
#include <decaf/net/SocketAddress.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/util/concurrent/Mutex.h>
```

Data Structures

- class **decaf::net::DatagramPacket**

  Class that represents a single datagram packet.

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.468 src/main/decaf/net/HttpRetryException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::net::HttpRetryException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.469 src/main/decaf/net/Inet4Address.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/net/InetAddress.h>
```

Data Structures

- class **decaf::net::Inet4Address**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.470 src/main/decaf/net/Inet6Address.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/InetAddress.h>
```

Data Structures

- class **decaf::net::Inet6Address**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.471 src/main/decaf/net/InetAddress.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/lang/ArrayPointer.h>
```

Data Structures

- class **decaf::net::InetAddress**

  Represents an IP address.

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.472 src/main/decaf/net/InetSocketAddress.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/SocketAddress.h>
#include <string>
```

Data Structures

- class **decaf::net::InetSocketAddress**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.473 src/main/decaf/net/MalformedURLException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::net::MalformedURLException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.474 src/main/decaf/net/NoRouteToHostException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/SocketException.h>
```

Data Structures

- class **decaf::net::NoRouteToHostException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.475 src/main/decaf/net/PortUnreachableException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/SocketException.h>
```

Data Structures

- class **decaf::net::PortUnreachableException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.476 src/main/decaf/net/ProtocolException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::net::ProtocolException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.477 src/main/decaf/net/ServerSocket.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/InetAddress.h>
#include <decaf/net/SocketImpl.h>
#include <decaf/net/SocketImplFactory.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/net/UnknownHostException.h>
#include <decaf/net/SocketTimeoutException.h>
#include <decaf/io/IOException.h>
#include <string>
```

Data Structures

- class **decaf::net::ServerSocket**

  This class implements server sockets.

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.478 src/main/decaf/net/ServerSocketFactory.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/InetAddress.h>
```

Data Structures

- class **decaf::net::ServerSocketFactory**

  Class used to create Server Sockets, subclasses can be created that create certain types of server sockets according to specific policies.

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.479 src/main/decaf/net/Socket.h File Reference

```
#include <decaf/net/InetAddress.h>
#include <decaf/net/SocketImplFactory.h>
#include <decaf/net/SocketException.h>
#include <decaf/io/InputStream.h>
#include <decaf/io/OutputStream.h>
#include <decaf/io/Closeable.h>
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/net/UnknownHostException.h>
#include <decaf/net/SocketTimeoutException.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::net::Socket**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.480 src/main/decaf/net/SocketAddress.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::net::SocketAddress**

  Base class for protocol specific ***Socket*** *(p. 2755) addresses.*

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.481 src/main/decaf/net/SocketError.h File Reference

```
#include <string>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::net::SocketError**

  Static utility class to simplify handling of error codes for socket operations.

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.482 src/main/decaf/net/SocketException.h File Reference

```
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::net::SocketException**

  Exception for errors when manipulating sockets.

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.483 src/main/decaf/net/SocketFactory.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
#include <decaf/net/UnknownHostException.h>
```

Data Structures

- class **decaf::net::SocketFactory**

  *The **SocketFactory** (p. 2774) is used to create **Socket** (p. 2755) objects and can be sub-classed to provide other types of Sockets or Sockets with varying configurations.*

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.484 src/main/decaf/net/SocketImpl.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
#include <decaf/io/InputStream.h>
#include <decaf/io/OutputStream.h>
#include <decaf/io/FileDescriptor.h>
#include <decaf/net/SocketException.h>
#include <decaf/net/SocketTimeoutException.h>
#include <decaf/net/SocketOptions.h>
#include <string>
```

Data Structures

- class **decaf::net::SocketImpl**

  Acts as a base class for all physical ***Socket*** *(p. 2755) implementations.*

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.485 src/main/decaf/net/SocketImplFactory.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::net::SocketImplFactory**

  Factory class interface for a Factory that creates ScoketImpl objects.

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.486 src/main/decaf/net/SocketOptions.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::net::SocketOptions**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.487 src/main/decaf/net/SocketTimeoutException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/InterruptedIOException.h>
```

Data Structures

- class **decaf::net::SocketTimeoutException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.488 src/main/decaf/net/ssl/SSLContext.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/ssl/SSLContextSpi.h>
```

Data Structures

- class **decaf::net::ssl::SSLContext**

  Represents on implementation of the Secure ***Socket*** *(p. 2755) Layer for streaming based sockets.*

Namespaces

- namespace **decaf**

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- namespace **decaf::net**
- namespace **decaf::net::ssl**

7.489 src/main/decaf/net/ssl/SSLContextSpi.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/SecureRandom.h>
```

Data Structures

- class **decaf::net::ssl::SSLContextSpi**

  *Defines the interface that should be provided by an **SSLContext** (p. 2795) provider.*

Namespaces

- namespace **decaf**

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- namespace **decaf::net**
- namespace **decaf::net::ssl**

7.490 src/main/decaf/net/ssl/SSLParameters.h File Reference

```
#include <decaf/util/Config.h>
#include <string>
#include <vector>
```

Data Structures

- class **decaf::net::ssl::SSLParameters**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**
- namespace **decaf::net::ssl**

7.491 src/main/decaf/net/ssl/SSLServerSocket.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/net/ServerSocket.h>
```

Data Structures

- class **decaf::net::ssl::SSLServerSocket**

  Represents a server socket that is used to accept connections from clients using the Secure Sockets protocol or the Top Level Security protocol.

Namespaces

- namespace **decaf**

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- namespace **decaf::net**
- namespace **decaf::net::ssl**

7.492 src/main/decaf/net/ssl/SSLServerSocketFactory.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/ServerSocketFactory.h>
#include <vector>
#include <string>
```

Data Structures

- class **decaf::net::ssl::SSLServerSocketFactory**

  Factory class interface that provides methods to create SSL Server Sockets.

Namespaces

- namespace **decaf**

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- namespace **decaf::net**
- namespace **decaf::net::ssl**

7.493 src/main/decaf/net/ssl/SSLSocket.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/Socket.h>
#include <decaf/net/ssl/SSLParameters.h>
```

Data Structures

- class **decaf::net::ssl::SSLSocket**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**
- namespace **decaf::net::ssl**

7.494 src/main/decaf/net/ssl/SSLSocketFactory.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/net/SocketFactory.h>
#include <vector>
#include <string>
```

Data Structures

- class **decaf::net::ssl::SSLSocketFactory**

  *Factory class interface for a **SocketFactory** (p. 2774) that can create **SSLSocket** (p. 2813) objects.*

Namespaces

- namespace **decaf**

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- namespace **decaf::net**
- namespace **decaf::net::ssl**

7.495 src/main/decaf/net/UnknownHostException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::net::UnknownHostException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.496 src/main/decaf/net/UnknownServiceException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::net::UnknownServiceException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.497 src/main/decaf/net/URI.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/net/URISyntaxException.h>
#include <decaf/net/MalformedURLException.h>
#include <decaf/net/URL.h>
#include <decaf/internal/net/URIType.h>
#include <string>
```

Data Structures

- class **decaf::net::URI**

  *This class represents an instance of a **URI** (p. 3152) as defined by RFC 2396.*

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.498 src/main/decaf/net/URISyntaxException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::net::URISyntaxException**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.499 src/main/decaf/net/URL.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <string>
```

Data Structures

- class **decaf::net::URL**

  *Class **URL** (p. 3194) represents a Uniform Resource Locator, a pointer to a "resource" on the World Wide Web.*

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.500 src/main/decaf/net/URLDecoder.h File Reference

```
#include <decaf/util/Config.h>
#include <string>
```

Data Structures

- class **decaf::net::URLDecoder**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.501 src/main/decaf/net/URLEncoder.h File Reference

```
#include <decaf/util/Config.h>
#include <string>
```

Data Structures

- class **decaf::net::URLEncoder**

Namespaces

- namespace **decaf**

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- namespace **decaf::net**

7.502 src/main/decaf/nio/Buffer.h File Reference

```
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/nio/InvalidMarkException.h>
```

Data Structures

- class **decaf::nio::Buffer**

  A container for data of a specific primitive type.

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.503 src/main/decaf/nio/BufferOverflowException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::nio::BufferOverflowException**

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.504 src/main/decaf/nio/BufferUnderflowException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::nio::BufferUnderflowException**

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.505 src/main/decaf/nio/ByteBuffer.h File Reference

```
#include <decaf/nio/Buffer.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
```

Data Structures

- class **decaf::nio::ByteBuffer**

  This class defines six categories of operations upon byte buffers:.

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.506 src/main/decaf/nio/CharBuffer.h File Reference

```
#include <decaf/nio/Buffer.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
#include <decaf/lang/CharSequence.h>
#include <decaf/lang/Appendable.h>
```

Data Structures

- class **decaf::nio::CharBuffer**

  This class defines four categories of operations upon character buffers:.

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.507 src/main/decaf/nio/DoubleBuffer.h File Reference

```
#include <decaf/nio/Buffer.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
```

Data Structures

- class **decaf::nio::DoubleBuffer**

  This class defines four categories of operations upon double buffers:.

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.508 src/main/decaf/nio/FloatBuffer.h File Reference

```
#include <decaf/nio/Buffer.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
```

Data Structures

- class **decaf::nio::FloatBuffer**

  This class defines four categories of operations upon float buffers:.

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.509 src/main/decaf/nio/IntBuffer.h File Reference

```
#include <decaf/nio/Buffer.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
```

Data Structures

- class **decaf::nio::IntBuffer**

  This class defines four categories of operations upon int buffers:.

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.510 src/main/decaf/nio/InvalidMarkException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
```

Data Structures

- class **decaf::nio::InvalidMarkException**

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.511 src/main/decaf/nio/LongBuffer.h File Reference

```
#include <decaf/nio/Buffer.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
```

Data Structures

- class **decaf::nio::LongBuffer**

  This class defines four categories of operations upon long long buffers:.

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.512 src/main/decaf/nio/ReadOnlyBufferException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
```

Data Structures

- class **decaf::nio::ReadOnlyBufferException**

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.513 src/main/decaf/nio/ShortBuffer.h File Reference

```
#include <decaf/nio/Buffer.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/nio/BufferUnderflowException.h>
#include <decaf/nio/BufferOverflowException.h>
#include <decaf/nio/ReadOnlyBufferException.h>
```

Data Structures

- class **decaf::nio::ShortBuffer**

  This class defines four categories of operations upon short buffers:.

Namespaces

- namespace **decaf**

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- namespace **decaf::nio**

7.514 src/main/decaf/security/auth/x500/X500Principal.h File Reference

```
#include <string>
#include <vector>
#include <decaf/security/Principal.h>
#include <decaf/util/Map.h>
#include <decaf/io/InputStream.h>
```

Data Structures

- class **decaf::security::auth::x500::X500Principal**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**
- namespace **decaf::security::auth**
- namespace **decaf::security::auth::x500**

7.515 src/main/decaf/security/cert/Certificate.h File Reference

```
#include <vector>
#include <decaf/util/Config.h>
#include <decaf/security/InvalidKeyException.h>
#include <decaf/security/NoSuchAlgorithmException.h>
#include <decaf/security/SignatureException.h>
#include <decaf/security/cert/CertificateEncodingException.h>
#include <decaf/security/cert/CertificateException.h>
```

Data Structures

- class **decaf::security::cert::Certificate**

  Base interface for all identity certificates.

Namespaces

- namespace **decaf**

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- namespace **decaf::security**
- namespace **decaf::security::cert**

7.516 src/main/decaf/security/cert/CertificateEncodingException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/cert/CertificateException.h>
```

Data Structures

- class **decaf::security::cert::CertificateEncodingException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**
- namespace **decaf::security::cert**

7.517 src/main/decaf/security/cert/CertificateException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/GeneralSecurityException.h>
```

Data Structures

- class **decaf::security::cert::CertificateException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**
- namespace **decaf::security::cert**

7.518 src/main/decaf/security/cert/CertificateExpiredException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/cert/CertificateException.h>
```

Data Structures

- class **decaf::security::cert::CertificateExpiredException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**
- namespace **decaf::security::cert**

7.519 src/main/decaf/security/cert/CertificateNotYetValidException.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/security/cert/CertificateException.h>
```

Data Structures

- class **decaf::security::cert::CertificateNotYetValidException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**
- namespace **decaf::security::cert**

7.520 src/main/decaf/security/cert/CertificateParsingException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/cert/CertificateException.h>
```

Data Structures

- class **decaf::security::cert::CertificateParsingException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**
- namespace **decaf::security::cert**

7.521 src/main/decaf/security/cert/X509Certificate.h File Reference

```
#include <decaf/security/cert/Certificate.h>
#include <decaf/util/Config.h>
#include <decaf/util/Date.h>
```

Data Structures

- class **decaf::security::cert::X509Certificate**

  Base interface for all identity certificates.

Namespaces

- namespace **decaf**

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- namespace **decaf::security**
- namespace **decaf::security::auth**
- namespace **decaf::security::cert**

7.522 src/main/decaf/security/DigestException.h File Reference

```
#include <decaf/security/GeneralSecurityException.h>
```

Data Structures

- class **decaf::security::DigestException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.523 src/main/decaf/security/GeneralSecurityException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::security::GeneralSecurityException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.524 src/main/decaf/security/InvalidKeyException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/KeyException.h>
```

Data Structures

- class **decaf::security::InvalidKeyException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.525 src/main/decaf/security/Key.h File Reference

```
#include <decaf/util/Config.h>
#include <vector>
#include <string>
```

Data Structures

- class **decaf::security::Key**

  *The **Key** (p. 1828) interface is the top-level interface for all keys.*

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.526 src/main/decaf/security/KeyException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/GeneralSecurityException.h>
```

Data Structures

- class **decaf::security::KeyException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.527 src/main/decaf/security/KeyManagementException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/KeyException.h>
```

Data Structures

- class **decaf::security::KeyManagementException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.528 src/main/decaf/security/MessageDigest.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/MessageDigestSpi.h>
#include <decaf/nio/ByteBuffer.h>
#include <string>
```

Data Structures

- class **decaf::security::MessageDigest**

  *This **MessageDigest** (p. 2121) class provides applications the functionality of a message digest algorithm, such as MD5 or SHA.*

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.529 src/main/decaf/security/MessageDigestSpi.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/nio/ByteBuffer.h>
#include <decaf/security/SecuritySpi.h>
#include <vector>
```

Data Structures

- class **decaf::security::MessageDigestSpi**

  *This class defines the Service **Provider** (p. 2485) Interface (SPI) for the **MessageDigest** (p. 2121) class, which provides the functionality of a message digest algorithm, such as MD5 or SHA.*

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.530 src/main/decaf/security/NoSuchAlgorithmException.h File Reference

```
#include <decaf/security/GeneralSecurityException.h>
```

Data Structures

- class **decaf::security::NoSuchAlgorithmException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.531 src/main/decaf/security/NoSuchProviderException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/GeneralSecurityException.h>
```

Data Structures

- class **decaf::security::NoSuchProviderException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.532 src/main/decaf/security/Principal.h File Reference

```
#include <decaf/util/Config.h>
#include <string>
```

Data Structures

- class **decaf::security::Principal**

  Base interface for a principal, which can represent an individual or organization.

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.533 src/main/decaf/security/Provider.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/Set.h>
#include <string>
#include <decaf/security/ProviderService.h>
```

Data Structures

- class **decaf::security::Provider**

  This class represents a "provider" for the Decaf ***Security*** *(p. 2628) API, where a provider implements some or all parts of Decaf* ***Security*** *(p. 2628).*

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.534 src/main/decaf/security/ProviderException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/RuntimeException.h>
```

Data Structures

- class **decaf::security::ProviderException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.535 src/main/decaf/security/ProviderService.h File Reference

```
#include <decaf/util/Config.h>
#include <string>
```

Data Structures

- class **decaf::security::ProviderService**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.536 src/main/decaf/security/PublicKey.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/Key.h>
```

Data Structures

- class **decaf::security::PublicKey**

  A public key.

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.537 src/main/decaf/security/SecureRandom.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/Random.h>
#include <decaf/security/SecureRandomSpi.h>
#include <memory>
```

Data Structures

- class **decaf::security::SecureRandom**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.538 src/main/decaf/security/SecureRandomSpi.h File Reference

`#include <decaf/util/Config.h>`

`#include <decaf/security/SecuritySpi.h>`

Data Structures

- class **decaf::security::SecureRandomSpi**

  Interface class used by ***Security*** *(p. 2628) Service Providers to implement a source of secure random bytes.*

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.539 src/main/decaf/security/Security.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::security::Security**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.540 src/main/decaf/security/SecuritySpi.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::security::SecuritySpi**

  *Base class used as a Marker for all **Security** (p. 2628) **Provider** (p. 2485) Interface classes in the Decaf **Security** (p. 2628) API.*

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.541 src/main/decaf/security/SignatureException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/security/GeneralSecurityException.h>
```

Data Structures

- class **decaf::security::SignatureException**

Namespaces

- namespace **decaf**

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- namespace **decaf::security**

7.542 src/main/decaf/util/AbstractCollection.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/Iterable.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/Collection.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/Mutex.h>
#include <memory>
```

Data Structures

- class **decaf::util::AbstractCollection< E >**

  This class provides a skeletal implementation of the ***Collection*** *(p. 1000) interface, to minimize the effort required to implement this interface.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.543 src/main/decaf/util/AbstractList.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/util/ConcurrentModificationException.h>
#include <decaf/lang/Iterable.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/List.h>
#include <decaf/util/AbstractCollection.h>
#include <memory>
```

Data Structures

- class **decaf::util::AbstractList< E >**

  This class provides a skeletal implementation of the ***List*** *(p. 1889) interface to minimize the effort required to implement this interface backed by a "random access" data store (such as an array).*

- class **decaf::util::AbstractList< E >::SimpleListIterator**
- class **decaf::util::AbstractList< E >::ConstSimpleListIterator**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.544 src/main/decaf/util/AbstractMap.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/Map.h>
#include <decaf/util/Set.h>
#include <memory>
```

Data Structures

- class **decaf::util::AbstractMap< K, V >**

  This class provides a skeletal implementation of the ***Map*** *(*p. 1995*) interface, to minimize the effort required to implement this interface.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.545 src/main/decaf/util/AbstractQueue.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <decaf/lang/Iterable.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/Queue.h>
#include <memory>
```

Data Structures

- class **decaf::util::AbstractQueue< E >**

  *This class provides skeletal implementations of some **Queue** (p. 2500) operations.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.546 src/main/decaf/util/AbstractSequentialList.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/Iterable.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/AbstractList.h>
#include <memory>
```

Data Structures

- class **decaf::util::AbstractSequentialList< E >**

  This class provides a skeletal implementation of the ***List*** *(p. 1889) interface to minimize the effort required to implement this interface backed by a "sequential access" data store (such as a linked list).*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.547 src/main/decaf/util/AbstractSet.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/Iterable.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/Set.h>
#include <memory>
```

Data Structures

- class **decaf::util::AbstractSet< E >**

  This class provides a skeletal implementation of the ***Set*** *(p. 2700) interface to minimize the effort required to implement this interface.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.548 src/main/decaf/util/ArrayList.h File Reference

```
#include <memory>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/lang/System.h>
#include <decaf/lang/Integer.h>
#include <decaf/util/Config.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/ListIterator.h>
#include <decaf/util/List.h>
#include <decaf/util/AbstractList.h>
```

Data Structures

- class **decaf::util::ArrayList< E >**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.549 src/main/decaf/util/Arrays.h File Reference

```
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
```

Data Structures

- class **decaf::util::Arrays**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.550 src/main/decaf/util/BitSet.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <string>
```

Data Structures

- class **decaf::util::BitSet**

  This class implements a vector of bits that grows as needed.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.551 src/main/decaf/util/Collection.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/Iterable.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/concurrent/Synchronizable.h>
```

Data Structures

- class **decaf::util::Collection< E >**

  The root interface in the collection hierarchy.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.552 src/main/decaf/util/Collections.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/Collection.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/ListIterator.h>
#include <decaf/util/List.h>
#include <decaf/lang/Pointer.h>
#include <vector>
#include <memory>
```

Data Structures

- class **decaf::util::Collections**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.553 src/main/decaf/util/Comparator.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::Comparator< T >**

  A comparison function, which imposes a total ordering on some collection of objects.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.554 src/main/decaf/util/comparators/Less.h File Reference

```
#include <decaf/util/Comparator.h>
```

Data Structures

- class **decaf::util::comparators::Less< E >**

  *Simple **Less** (p. 1842) **Comparator** (p. 1034) that compares to elements to determine if the first is less than the second.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::comparators**

7.555 src/main/decaf/util/concurrent/AbstractExecutorService.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/concurrent/Executor.h>
#include <decaf/util/concurrent/ExecutorService.h>
```

Data Structures

- class **decaf::util::concurrent::AbstractExecutorService**

  *Provides a default implementation for the methods of the **ExecutorService** (p. 1471) interface.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.556 src/main/decaf/util/concurrent/atomic/AtomicBoolean.h File Reference

```
#include <string>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::concurrent::atomic::AtomicBoolean**

  A boolean value that may be updated atomically.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::atomic**

7.557 src/main/decaf/util/concurrent/atomic/AtomicInteger.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Number.h>
#include <string>
```

Data Structures

- class **decaf::util::concurrent::atomic::AtomicInteger**

  An int value that may be updated atomically.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::atomic**

7.558 src/main/decaf/util/concurrent/atomic/AtomicRefCounter.h File Reference

```
#include <decaf/util/concurrent/atomic/AtomicInteger.h>
#include <algorithm>
```

Data Structures

- class **decaf::util::concurrent::atomic::AtomicRefCounter**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::atomic**

7.559 src/main/decaf/util/concurrent/atomic/AtomicReference.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Long.h>
#include <decaf/internal/util/concurrent/Atomics.h>
```

Data Structures

- class **decaf::util::concurrent::atomic::AtomicReference< T >**

  An Pointer reference that may be updated atomically.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::atomic**

7.560 src/main/decaf/util/concurrent/BlockingQueue.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/AbstractQueue.h>
#include <decaf/util/concurrent/TimeUnit.h>
#include <decaf/lang/exceptions/InterruptedException.h>
```

Data Structures

- class **decaf::util::concurrent::BlockingQueue< E >**

  *A **decaf::util::Queue** (p. 2500) that additionally supports operations that wait for the queue to become non-empty when retrieving an element, and wait for space to become available in the queue when storing an element.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.561 src/main/decaf/util/concurrent/BrokenBarrierException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::util::concurrent::BrokenBarrierException**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.562 src/main/decaf/util/concurrent/Callable.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::util::concurrent::CallableType**

  Base class of all ***Callable<T>*** *(p. 882) objects, used to allow identification via type casting.*

- class **decaf::util::concurrent::Callable< V >**

  A task that returns a result and may throw an exception.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.563 src/main/decaf/util/concurrent/CancellationException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::util::concurrent::CancellationException**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.564 src/main/decaf/util/concurrent/Concurrent.h File Reference

```
#include <decaf/util/concurrent/Lock.h>
```

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

Defines

- #define **WAIT_INFINITE** 0xFFFFFFFF

  The synchronized macro defines a mechanism for synchronizing a section of ***code*** *(p. 999).*

- #define **synchronized**(W)

7.564.1 Define Documentation

7.564.1.1 #define synchronized(W)

Value:

```
if(false){}                                                    \
        else                                                          \
        for( decaf::util::concurrent::Lock lock_W(W);                 \
             lock_W.isLocked(); lock_W.unlock() )
```

7.564.1.2 #define WAIT_INFINITE 0xFFFFFFFF

The synchronized macro defines a mechanism for synchronizing a section of **code** (p. 999). The macro must be passed an object that implements the Synchronizable interface.

The macro works by creating a for loop that will loop exactly once, creating a Lock object that is scoped to the loop. Once the loop completes and exits the Lock object goes out of scope releasing the lock on object W. For added safety the if else is used because not all compiles restrict the lifetime of loop variables to the loop, they will however restrict them to the scope of the else.

The macro would be used as follows.

Synchronizable X;

somefunction() { **synchronized(X)** (p. 3868) { // Do something that needs synchronizing. } }

7.565 src/main/decaf/util/concurrent/ConcurrentHashMap.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::concurrent::ConcurrentHashMap**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.566 src/main/decaf/util/concurrent/ConcurrentMap.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/Map.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <decaf/util/NoSuchElementException.h>
```

Data Structures

- class **decaf::util::concurrent::ConcurrentMap< K, V >**

  *Interface for a **Map** (p. 1995) type that provides additional **atomic** (p. 132) putIfAbsent, remove, and replace methods alongside the already available **Map** (p. 1995) interface.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.567 src/main/decaf/util/concurrent/ConcurrentStlMap.h File Reference

```
#include <map>
#include <vector>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/ConcurrentMap.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/ConcurrentModificationException.h>
#include <decaf/util/Map.h>
#include <decaf/util/AbstractCollection.h>
#include <decaf/util/AbstractSet.h>
#include <decaf/util/Iterator.h>
#include <decaf/lang/Pointer.h>
```

Data Structures

- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >**

  Map *(*p. *1995) template that wraps around a std::map to provide a more user-friendly interface and to provide common functions that do not exist in std::map.*

- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::AbstractMapIterator**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::EntryIterator**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::KeyIterator**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ValueIterator**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConstAbstractMapIterator**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConstEntryIterator**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConstKeyIterator**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConstValueIterator**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::StlMapEntrySet**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConstStlMapEntrySet**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::StlMapKeySet**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConstStlMapKeySet**

- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::StlMapValueCollection**
- class **decaf::util::concurrent::ConcurrentStlMap< K, V, COMPARATOR >::ConstStlMapValueCollection**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.568 src/main/decaf/util/concurrent/CopyOnWriteArrayList.h File Reference

```
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/locks/ReentrantReadWriteLock.h>
#include <decaf/lang/System.h>
#include <decaf/lang/Math.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/List.h>
```

Data Structures

- class **decaf::util::concurrent::CopyOnWriteArrayList< E >**
- struct **decaf::util::concurrent::CopyOnWriteArrayList< E >::Array**
- class **decaf::util::concurrent::CopyOnWriteArrayList< E >::ArrayListIterator**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.569 src/main/decaf/util/concurrent/CopyOnWriteArraySet.h File Reference

```
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/lang/ArrayPointer.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/concurrent/CopyOnWriteArrayList.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/Set.h>
#include <decaf/util/Arrays.h>
#include <decaf/util/AbstractSet.h>
```

Data Structures

- class **decaf::util::concurrent::CopyOnWriteArraySet< E >**

  *Since the **CopyOnWriteArraySet** (p. 1215) and the **CopyOnWriteArrayList** (p. 1197) share much of the same operational semantics this class uses the **CopyOnWriteArrayList** (p. 1197) for all its underlying operations.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.570 src/main/decaf/util/concurrent/CountDownLatch.h File Reference

```
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/concurrent/TimeUnit.h>
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::util::concurrent::CountDownLatch**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.571 src/main/decaf/util/concurrent/Delayed.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/util/concurrent/TimeUnit.h>
```

Data Structures

- class **decaf::util::concurrent::Delayed**

  A mix-in style interface for marking objects that should be acted upon after a given delay.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.572 src/main/decaf/util/concurrent/ExecutionException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::util::concurrent::ExecutionException**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.573 src/main/decaf/util/concurrent/Executor.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Runnable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/util/concurrent/RejectedExecutionException.h>
```

Data Structures

- class **decaf::util::concurrent::Executor**

  An object that executes submitted ***decaf.lang.Runnable*** *(p. 2607) tasks.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.574 src/main/decaf/util/concurrent/Executors.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Thread.h>
#include <decaf/lang/Runnable.h>
#include <decaf/util/concurrent/Callable.h>
#include <decaf/lang/exceptions/NullPointerException.h>
```

Data Structures

- class **decaf::util::concurrent::Executors**

  *Implements a set of utilities for use with **Executors** (p. 1466), **ExecutorService** (p. 1471), **ThreadFactory** (p. 3011), and **Callable** (p. 882) types, as well as providing factory methods for instance of these types configured for the most common use cases.*

- class **decaf::util::concurrent::Executors::RunnableAdapter< E >**

  *A **Callable** (p. 882) subclass that runs given task and returns given result.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.575 src/main/decaf/util/concurrent/ExecutorService.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Runnable.h>
#include <decaf/util/ArrayList.h>
#include <decaf/util/concurrent/Future.h>
#include <decaf/util/concurrent/FutureTask.h>
#include <decaf/util/concurrent/Executor.h>
#include <decaf/util/concurrent/TimeUnit.h>
#include <decaf/lang/exceptions/InterruptedException.h>
```

Data Structures

- class **decaf::util::concurrent::ExecutorService**

  *An **Executor** (p. 1463) that provides methods to manage termination and methods that can produce a **Future** (p. 1558) for tracking progress of one or more asynchronous tasks.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.576 src/main/decaf/util/concurrent/Future.h File Reference

```
#include <decaf/util/Config.h>
```

```
#include <decaf/util/concurrent/TimeUnit.h>
```

Data Structures

- class **decaf::util::concurrent::FutureType**
- class **decaf::util::concurrent::Future< V >**

  *A **Future** (p. 1558) represents the result of an asynchronous computation.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.577 src/main/decaf/util/concurrent/FutureTask.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Thread.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/util/concurrent/RunnableFuture.h>
#include <decaf/util/concurrent/Callable.h>
#include <decaf/util/concurrent/CancellationException.h>
#include <decaf/util/concurrent/ExecutionException.h>
#include <decaf/util/concurrent/TimeoutException.h>
#include <decaf/util/concurrent/TimeUnit.h>
#include <decaf/util/concurrent/locks/AbstractQueuedSynchronizer.h>
```

Data Structures

- class **decaf::util::concurrent::FutureTask< T >**

  A cancellable asynchronous computation.

- class **decaf::util::concurrent::FutureTask< T >::FutureTaskAdapter**

  *A **Callable** (p. 882) subclass that runs given task and returns given result, used to wrap either a Runnable or **Callable** (p. 882) pointer and.*

- class **decaf::util::concurrent::FutureTask< T >::FutureTaskSync**

  *Synchronization control for **FutureTask** (p. 1562).*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.578 src/main/decaf/util/concurrent/LinkedBlockingQueue.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/concurrent/atomic/AtomicInteger.h>
#include <decaf/util/concurrent/BlockingQueue.h>
#include <decaf/util/concurrent/locks/ReentrantLock.h>
#include <decaf/util/AbstractQueue.h>
#include <decaf/util/Iterator.h>
#include <decaf/lang/Integer.h>
#include <decaf/lang/Math.h>
#include <decaf/lang/Pointer.h>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
```

Data Structures

- class **decaf::util::concurrent::LinkedBlockingQueue< E >**

  *A **BlockingQueue*** (p. *684*) *derivative that allows for a bound to be placed on the number of elements that can be enqueued at any one time.*

- class **decaf::util::concurrent::LinkedBlockingQueue< E >::QueueNode< U >**
- class **decaf::util::concurrent::LinkedBlockingQueue< E >::TotalLock**
- class **decaf::util::concurrent::LinkedBlockingQueue< E >::LinkedIterator**
- class **decaf::util::concurrent::LinkedBlockingQueue< E >::ConstLinkedIterator**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.579 src/main/decaf/util/concurrent/Lock.h File Reference

```
#include <decaf/util/concurrent/Synchronizable.h>
```

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::concurrent::Lock**

  A wrapper class around a given synchronization mechanism that provides automatic release upon destruction.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.580 src/main/decaf/util/concurrent/locks/Lock.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/util/concurrent/locks/Condition.h>
```

Data Structures

- class **decaf::util::concurrent::locks::Lock**

  Lock *(*p. *1913) implementations provide more extensive locking operations than can be obtained using synchronized statements.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::locks**

7.581 src/main/decaf/util/concurrent/locks/AbstractOwnableSynchron File Reference

`#include <decaf/util/Config.h>`

Data Structures

- class **decaf::util::concurrent::locks::AbstractOwnableSynchronizer**

  Base class for ***locks*** *(p. 133) that provide the notion of Ownership, the types of* ***locks*** *(p. 133) that are implemented using this base class would be owned by one specific Thread at any given time.*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::locks**

7.582 src/main/decaf/util/concurrent/locks/AbstractQueuedSynchroniz File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/concurrent/locks/AbstractOwnableSynchronizer.h>
#include <decaf/util/concurrent/locks/Condition.h>
#include <decaf/util/Collection.h>
#include <decaf/lang/Thread.h>
```

Data Structures

- class **decaf::util::concurrent::locks::AbstractQueuedSynchronizer**
- class **decaf::util::concurrent::locks::AbstractQueuedSynchronizer::ConditionObject**

  Condition *(p. 1071) object for this Synchronizer, which serves as the basis for other* ***Lock*** *(p. 1913) objects.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::locks**

7.583 src/main/decaf/util/concurrent/locks/Condition.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/Date.h>
#include <decaf/util/concurrent/TimeUnit.h>
#include <decaf/lang/exceptions/RuntimeException.h>
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/lang/exceptions/IllegalMonitorStateException.h>
```

Data Structures

- class **decaf::util::concurrent::locks::Condition**

  Condition *(p. 1071) factors out the* ***Mutex*** *(p. 2223) monitor methods (wait, notify and notifyAll) into distinct objects to give the effect of having multiple wait-sets per object, by combining them with the use of arbitrary* ***Lock*** *(p. 1913) implementations.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::locks**

7.584 src/main/decaf/util/concurrent/locks/LockSupport.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::concurrent::locks::LockSupport**

  Basic thread blocking primitives for creating ***locks*** *(p. 133) and other synchronization classes.*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::locks**

7.585 src/main/decaf/util/concurrent/locks/ReadWriteLock.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/concurrent/locks/Lock.h>
```

Data Structures

- class **decaf::util::concurrent::locks::ReadWriteLock**

  *A **ReadWriteLock** (p. 2523) maintains a pair of associated **locks** (p. 133), one for read-only operations and one for writing.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::locks**

7.586 src/main/decaf/util/concurrent/locks/ReentrantLock.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/concurrent/locks/Lock.h>
#include <decaf/util/Collection.h>
```

Data Structures

- class **decaf::util::concurrent::locks::ReentrantLock**

  *A reentrant mutual exclusion **Lock** (p. 1913) with extended capabilities.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::locks**

7.587 src/main/decaf/util/concurrent/locks/ReentrantReadWriteLock.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Thread.h>
#include <decaf/util/Collection.h>
#include <decaf/util/concurrent/locks/ReadWriteLock.h>
```

Data Structures

- class **decaf::util::concurrent::locks::ReentrantReadWriteLock**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**
- namespace **decaf::util::concurrent::locks**

7.588 src/main/decaf/util/concurrent/Mutex.h File Reference

```
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/Concurrent.h>
#include <decaf/lang/Thread.h>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::concurrent::Mutex**

  Mutex *(p. 2223) object that offers recursive support on all platforms as well as providing the ability to use the standard wait / notify pattern used in languages like Java.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.589 src/main/decaf/util/concurrent/RejectedExecutionException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::util::concurrent::RejectedExecutionException**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.590 src/main/decaf/util/concurrent/RejectedExecutionHandler.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Runnable.h>
#include <decaf/util/concurrent/RejectedExecutionException.h>
```

Data Structures

- class **decaf::util::concurrent::RejectedExecutionHandler**

  A handler for tasks that cannot be executed by a ***ThreadPoolExecutor*** *(p. 3031).*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.591 src/main/decaf/util/concurrent/RunnableFuture.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Runnable.h>
#include <decaf/util/concurrent/Future.h>
```

Data Structures

- class **decaf::util::concurrent::RunnableFuture< T >**

  *A Runnable version of the **Future** (p. 1558) type.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.592 src/main/decaf/util/concurrent/Semaphore.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/lang/exceptions/RuntimeException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/util/Collection.h>
#include <decaf/util/concurrent/TimeUnit.h>
```

Data Structures

- class **decaf::util::concurrent::Semaphore**

  A counting semaphore.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.593 src/main/decaf/util/concurrent/Synchronizable.h File Reference

```
#include <decaf/lang/exceptions/RuntimeException.h>
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/IllegalMonitorStateException.h>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::concurrent::Synchronizable**

  The interface for all synchronizable objects (that is, objects that can be locked and unlocked).

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.594 src/main/decaf/util/concurrent/SynchronousQueue.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/concurrent/BlockingQueue.h>
#include <vector>
```

Data Structures

- class **decaf::util::concurrent::SynchronousQueue< E >**

  *A **blocking queue** (p. 684) in which each insert operation must wait for a corresponding remove operation by another thread, and vice versa.*

- class **decaf::util::concurrent::SynchronousQueue< E >::EmptyIterator**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.595 src/main/decaf/util/concurrent/ThreadFactory.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Thread.h>
#include <decaf/lang/Runnable.h>
```

Data Structures

- class **decaf::util::concurrent::ThreadFactory**

  public interface ***ThreadFactory*** *(*p. *3011**)*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.596 src/main/decaf/util/concurrent/ThreadPoolExecutor.h File Reference

```
#include <decaf/lang/Runnable.h>
#include <decaf/lang/Throwable.h>
#include <decaf/util/concurrent/ThreadFactory.h>
#include <decaf/util/concurrent/BlockingQueue.h>
#include <decaf/util/concurrent/TimeUnit.h>
#include <decaf/util/concurrent/AbstractExecutorService.h>
#include <decaf/util/concurrent/RejectedExecutionHandler.h>
#include <decaf/util/concurrent/RejectedExecutionException.h>
#include <decaf/util/LinkedList.h>
#include <decaf/util/ArrayList.h>
#include <decaf/util/Config.h>
#include <vector>
```

Data Structures

- class **decaf::util::concurrent::ThreadPoolExecutor**

  Defines a Thread Pool object that implements the functionality of pooling threads to perform user tasks.

- class **decaf::util::concurrent::ThreadPoolExecutor::AbortPolicy**

  *Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute*** (p. *3039*) *this class always throws a **RejectedExecutionException*** (p. *2552*).

- class **decaf::util::concurrent::ThreadPoolExecutor::CallerRunsPolicy**

  *Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute*** (p. *3039*) *this class will attempt to run the task in the Thread that called the execute method unless the executor is shutdown in which case the task is not run and is destroyed.*

- class **decaf::util::concurrent::ThreadPoolExecutor::DiscardPolicy**

  *Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute*** (p. *3039*) *this class always destroys the rejected task and returns quietly.*

- class **decaf::util::concurrent::ThreadPoolExecutor::DiscardOldestPolicy**

  *Handler policy for tasks that are rejected upon a call to **ThreadPoolExecutor::execute*** (p. *3039*) *this class always destroys the oldest unexecuted task in the **Queue*** (p. *2500*) *and then attempts to execute the rejected task using the passed in executor.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.597 src/main/decaf/util/concurrent/TimeoutException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::util::concurrent::TimeoutException**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.598 src/main/decaf/util/concurrent/TimeUnit.h File Reference

```
#include <string>
#include <decaf/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/InterruptedException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
```

Data Structures

- class **decaf::util::concurrent::TimeUnit**

  *A **TimeUnit** (p. 3072) represents time durations at a given unit of granularity and provides utility methods to convert across units, and to perform timing and delay operations in these units.*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::util**
- namespace **decaf::util::concurrent**

7.599 src/main/decaf/util/ConcurrentModificationException.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/RuntimeException.h>
```

Data Structures

- class **decaf::util::ConcurrentModificationException**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.600 src/main/decaf/util/Date.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <string>
```

Data Structures

- class **decaf::util::Date**

  Wrapper class around a time value in milliseconds.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.601 src/main/decaf/util/Deque.h File Reference

```
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <decaf/util/Config.h>
#include <decaf/util/Queue.h>
```

Data Structures

- class **decaf::util::Deque< E >**

  Defines a 'Double ended Queue' interface that allows for insertion and removal of elements from both ends.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.602 src/main/decaf/util/HashCode.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/Float.h>
#include <decaf/lang/Double.h>
#include <string>
#include <functional>
```

Data Structures

- struct **decaf::util::HashCodeUnaryBase< T >**
- struct **decaf::util::HashCode< T >**

  *Base **HashCode** (p. 1581) template, specializations are created from this to account for the various native types.*

- struct **decaf::util::HashCode< const T >**
- struct **decaf::util::HashCode< T * >**
- struct **decaf::util::HashCode< const T * >**
- struct **decaf::util::HashCode< bool >**
- struct **decaf::util::HashCode< char >**
- struct **decaf::util::HashCode< wchar_t >**
- struct **decaf::util::HashCode< unsigned short >**
- struct **decaf::util::HashCode< short >**
- struct **decaf::util::HashCode< unsigned int >**
- struct **decaf::util::HashCode< int >**
- struct **decaf::util::HashCode< unsigned long long >**
- struct **decaf::util::HashCode< long long >**
- struct **decaf::util::HashCode< float >**
- struct **decaf::util::HashCode< double >**
- struct **decaf::util::HashCode< std::string >**
- struct **decaf::util::HashCode< const std::string >**
- struct **decaf::util::HashCode< decaf::lang::Pointer< T > >**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.603 src/main/decaf/util/HashMap.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/AbstractMap.h>
#include <decaf/util/AbstractSet.h>
#include <decaf/util/HashCode.h>
#include <decaf/util/ConcurrentModificationException.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/ArrayPointer.h>
```

Data Structures

- class **decaf::util::HashMap< K, V, HASHCODE >**

  *Hash table based implementation of the **Map** (p. 1995) interface.*

- class **decaf::util::HashMap< K, V, HASHCODE >::HashMapEntry**
- class **decaf::util::HashMap< K, V, HASHCODE >::AbstractMapIterator**
- class **decaf::util::HashMap< K, V, HASHCODE >::EntryIterator**
- class **decaf::util::HashMap< K, V, HASHCODE >::KeyIterator**
- class **decaf::util::HashMap< K, V, HASHCODE >::ValueIterator**
- class **decaf::util::HashMap< K, V, HASHCODE >::ConstAbstractMapIterator**
- class **decaf::util::HashMap< K, V, HASHCODE >::ConstEntryIterator**
- class **decaf::util::HashMap< K, V, HASHCODE >::ConstKeyIterator**
- class **decaf::util::HashMap< K, V, HASHCODE >::ConstValueIterator**
- class **decaf::util::HashMap< K, V, HASHCODE >::HashMapEntrySet**
- class **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapEntrySet**
- class **decaf::util::HashMap< K, V, HASHCODE >::HashMapKeySet**
- class **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapKeySet**
- class **decaf::util::HashMap< K, V, HASHCODE >::HashMapValueCollection**
- class **decaf::util::HashMap< K, V, HASHCODE >::ConstHashMapValueCollection**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.604 src/main/decaf/util/HashSet.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/AbstractSet.h>
#include <decaf/util/HashMap.h>
#include <decaf/util/HashCode.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/Integer.h>
#include <decaf/util/ConcurrentModificationException.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
```

Data Structures

- class **decaf::util::HashSet< E, HASHCODE >**

  *This class implements the **Set*** (p. *2700*) *interface, backed by a hash table (actually a **HashMap*** (p. *1600*) *instance).*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.605 src/main/decaf/util/Iterator.h File Reference

```
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
```

Data Structures

- class **decaf::util::Iterator< E >**

  Defines an object that can be used to iterate over the elements of a collection.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.606 src/main/decaf/util/LinkedHashMap.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/HashMap.h>
```

Data Structures

- class **decaf::util::LinkedHashMap< K, V, HASHCODE >**

  *Hashed and linked list implementation of the **Map** (p. 1995) interface, with predictable iteration order.*

- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::LinkedHashMapEntry**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::AbstractMapIterator**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::EntryIterator**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::KeyIterator**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::ValueIterator**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::ConstAbstractMapIterator**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::ConstEntryIterator**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::ConstKeyIterator**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::ConstValueIterator**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::LinkedHashMapEntrySet**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::ConstLinkedHashMapEntrySet**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::LinkedHashMapKeySet**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::ConstLinkedHashMapKeySet**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::LinkedHashMapValueCollection**
- class **decaf::util::LinkedHashMap< K, V, HASHCODE >::ConstLinkedHashMapValueCollection**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.607 src/main/decaf/util/LinkedHashSet.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/LinkedHashMap.h>
#include <decaf/util/HashSet.h>
#include <decaf/util/ConcurrentModificationException.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
```

Data Structures

- class **decaf::util::LinkedHashSet< E, HASHCODE >**

  *Hash table and linked list implementation of the **Set** (p. 2700) interface, with predictable iteration order.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.608 src/main/decaf/util/LinkedList.h File Reference

```
#include <list>
#include <memory>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/lang/System.h>
#include <decaf/lang/Integer.h>
#include <decaf/util/Config.h>
#include <decaf/util/Deque.h>
#include <decaf/util/ArrayList.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/ListIterator.h>
#include <decaf/util/AbstractSequentialList.h>
```

Data Structures

- class **decaf::util::LinkedList< E >**

  *A complete implementation of the **List** (p. 1889) interface using a doubly linked list data structure.*

- class **decaf::util::LinkedList< E >::ListNode< U >**
- class **decaf::util::LinkedList< E >::LinkedListIterator**
- class **decaf::util::LinkedList< E >::ConstLinkedListIterator**
- class **decaf::util::LinkedList< E >::ReverseIterator**
- class **decaf::util::LinkedList< E >::ConstReverseIterator**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.609 src/main/decaf/util/List.h File Reference

```
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/Config.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/Collection.h>
#include <decaf/util/AbstractCollection.h>
#include <decaf/util/ListIterator.h>
```

Data Structures

- class **decaf::util::List< E >**

  An ordered collection (also known as a sequence).

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.610 src/main/decaf/util/ListIterator.h File Reference

```
#include <decaf/util/Iterator.h>
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **decaf::util::ListIterator< E >**

  An iterator for lists that allows the programmer to traverse the list in either direction, modify the list during iteration, and obtain the iterator's current position in the list.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.611 src/main/decaf/util/logging/ConsoleHandler.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/logging/StreamHandler.h>
#include <decaf/util/logging/SimpleFormatter.h>
#include <decaf/io/IOException.h>
#include <decaf/internal/io/StandardErrorOutputStream.h>
```

Data Structures

- class **decaf::util::logging::ConsoleHandler**

  *This **Handler** (p. 1577) publishes log records to System.err.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.612 src/main/decaf/util/logging/ErrorManager.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Exception.h>
#include <decaf/util/concurrent/atomic/AtomicBoolean.h>
#include <string>
```

Data Structures

- class **decaf::util::logging::ErrorManager**

  ErrorManager *(p. 1442) objects can be attached to Handlers to process any error that occur on a* ***Handler*** *(p. 1577) during Logging.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.613 src/main/decaf/util/logging/Filter.h File Reference

`#include <decaf/util/logging/LogRecord.h>`

Data Structures

- class **decaf::util::logging::Filter**

  *A **Filter** (p. 1507) can be used to provide fine grain control over what is logged, beyond the control provided by log levels.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.614 src/main/decaf/util/logging/Formatter.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/logging/Handler.h>
```

Data Structures

- class **decaf::util::logging::Formatter**

  *A **Formatter** (p. 1556) provides support for formatting LogRecords.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.615 src/main/decaf/util/logging/Handler.h File Reference

```
#include <decaf/io/Closeable.h>
#include <decaf/lang/Exception.h>
#include <decaf/util/logging/LogRecord.h>
#include <decaf/util/logging/Level.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <string>
```

Data Structures

- class **decaf::util::logging::Handler**

  *A **Handler** (p. 1577) object takes log messages from a **Logger** (p. 1922) and exports them.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.616 src/main/decaf/util/logging/Level.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **decaf::util::logging::Level**

  *The **Level** (p. 1846) class defines a set of standard **logging** (p. 134) levels that can be used to control **logging** (p. 134) output.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.617 src/main/decaf/util/logging/Logger.h File Reference

```
#include <decaf/util/logging/LoggerCommon.h>
#include <decaf/util/logging/LogRecord.h>
#include <decaf/util/logging/LogManager.h>
#include <decaf/util/logging/Handler.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <list>
#include <string>
#include <stdarg.h>
```

Data Structures

- class **decaf::util::logging::Logger**

  *A **Logger** (p. 1922) object is used to log messages for a specific system or application component.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.618 src/main/decaf/util/logging/LoggerCommon.h File Reference

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

Enumerations

- enum **decaf::util::logging::Levels** {

  decaf::util::logging::Off, **decaf::util::logging::Null**, **decaf::util::logging::Markblock**, **decaf::util::logging::Debug**,

  decaf::util::logging::Info, **decaf::util::logging::Warn**, **decaf::util::logging::Error**, **decaf::util::logging::Fatal**,

  decaf::util::logging::Throwing }

  Defines an enumeration for logging levels.

7.619 src/main/decaf/util/logging/LoggerDefines.h File Reference

```
#include <decaf/util/logging/SimpleLogger.h>
#include <sstream>
```

Defines

- #define **LOGDECAF_DECLARE**(loggerName) static **decaf::util::logging::SimpleLogger** loggerName;
- #define **LOGDECAF_INITIALIZE**(loggerName, className, loggerFamily) **decaf::util::logging::SimpleLogger** className::loggerName(loggerFamily);
- #define **LOGDECAF_DECLARE_LOCAL**(loggerName) **decaf::util::logging::Logger** loggerName;
- #define **LOGDECAF_DEBUG**(logger, message) logger.debug(__FILE__, __LINE__, message);
- #define **LOGDECAF_DEBUG_1**(logger, message, value)
- #define **LOGDECAF_INFO**(logger, message) logger.info(__FILE__, __LINE__, message);
- #define **LOGDECAF_ERROR**(logger, message) logger.error(__FILE__, __LINE__, message);
- #define **LOGDECAF_WARN**(logger, message) logger.warn(__FILE__, __LINE__, message);
- #define **LOGDECAF_FATAL**(logger, message) logger.fatal(__FILE__, __LINE__, message);

7.619.1 Define Documentation

7.619.1.1 #define LOGDECAF_DEBUG(logger, message) logger.debug(__FILE__, __LINE__, message);

7.619.1.2 #define LOGDECAF_DEBUG_1(logger, message, value)

Value:

```
;                   \
   {                                                    \
      std::ostringstream ostream;                       \
      ostream << message << value;                      \
      logger.debug(__FILE__, __LINE__, ostream.str());  \
   }
```

7.619.1.3 #define LOGDECAF_DECLARE(loggerName) static decaf::util::logging::SimpleLogger loggerName;

7.619.1.4 #define LOGDECAF_DECLARE_LOCAL(loggerName) decaf::util::logging::Logger loggerName;

7.619.1.5 #define LOGDECAF_ERROR(logger, message) logger.error(__FILE__, __LINE__, message);

7.619.1.6 #define LOGDECAF_FATAL(logger, message) logger.fatal(__FILE__, __LINE__, message);

7.619.1.7 #define LOGDECAF_INFO(logger, message) logger.info(__FILE__, __LINE__, message);

7.619.1.8 #define LOGDECAF_INITIALIZE(loggerName, className, loggerFamily) decaf::util::logging::SimpleLogger className::loggerName(loggerFamily);

7.619.1.9 #define LOGDECAF_WARN(logger, message) logger.warn(__FILE__, __LINE__, message);

7.620 src/main/decaf/util/logging/LoggerHierarchy.h File Reference

Data Structures

- class **decaf::util::logging::LoggerHierarchy**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.621 src/main/decaf/util/logging/LogManager.h File Reference

```
#include <map>
#include <list>
#include <string>
#include <vector>
#include <decaf/lang/Pointer.h>
#include <decaf/util/Properties.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/Config.h>
#include <decaf/io/IOException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **decaf::util::logging::LogManager**

  There is a single global ***LogManager*** *(p. 1941) object that is used to maintain a set of shared state about Loggers and log services.*

Namespaces

- namespace **decaf**

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- namespace **decaf::lang**
- namespace **decaf::io**
- namespace **decaf::util**
- namespace **decaf::util::logging**

7.622 src/main/decaf/util/logging/LogRecord.h File Reference

```
#include <decaf/lang/Throwable.h>
#include <decaf/util/logging/LoggerCommon.h>
#include <decaf/util/logging/Level.h>
#include <decaf/util/Config.h>
#include <memory>
#include <string>
```

Data Structures

- class **decaf::util::logging::LogRecord**

  LogRecord *(p. 1947) objects are used to pass* ***logging*** *(p. 134) requests between the* ***logging*** *(p. 134) framework and individual log Handlers.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.623 src/main/decaf/util/logging/LogWriter.h File Reference

```
#include <decaf/util/Config.h>
#include <string>
```

Data Structures

- class **decaf::util::logging::LogWriter**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.624 src/main/decaf/util/logging/MarkBlockLogger.h File Reference

```
#include <decaf/util/logging/Logger.h>
```

Data Structures

- class **decaf::util::logging::MarkBlockLogger**

  Defines a class that can be used to mark the entry and exit from scoped blocks.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.625 src/main/decaf/util/logging/PropertiesChangeListener.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::logging::PropertiesChangeListener**

  Defines the interface that classes can use to listen for change events on ***Properties*** *(p. 2471).*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.626 src/main/decaf/util/logging/SimpleFormatter.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/logging/Formatter.h>
#include <string>
```

Data Structures

- class **decaf::util::logging::SimpleFormatter**

  *Print a brief summary of the **LogRecord** (p. 1947) in a human readable format.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.627 src/main/decaf/util/logging/SimpleLogger.h File Reference

```
#include <string>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::logging::SimpleLogger**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.628 src/main/decaf/util/logging/StreamHandler.h File Reference

```
#include <decaf/util/logging/LoggerCommon.h>
#include <decaf/util/logging/Handler.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/InvalidStateException.h>
#include <decaf/util/concurrent/Concurrent.h>
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::logging::StreamHandler**

  *Stream based **logging** (p. 134) **Handler** (p. 1577).*

Namespaces

- namespace **decaf**

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- namespace **decaf::io**
- namespace **decaf::util**
- namespace **decaf::util::logging**

7.629 src/main/decaf/util/logging/XMLFormatter.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/logging/Formatter.h>
#include <decaf/util/logging/LogRecord.h>
```

Data Structures

- class **decaf::util::logging::XMLFormatter**

  *Format a **LogRecord** (p. 1947) into a standard XML format.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::logging**

7.630 src/main/decaf/util/LRUCache.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/LinkedHashMap.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **decaf::util::LRUCache< K, V, HASHCODE >**
  A Basic Least Recently Used (LRU) Cache ***Map*** (p. *1995*).

Namespaces

- namespace **decaf**
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- namespace **decaf::util**

7.631 src/main/decaf/util/Map.h File Reference

```
#include <functional>
#include <vector>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/Set.h>
#include <decaf/util/Collection.h>
#include <decaf/util/MapEntry.h>
```

Data Structures

- class **decaf::util::Map< K, V >**

  An object that maps keys to values.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.632 src/main/decaf/util/MapEntry.h File Reference

```
#include <decaf/util/Config.h>
```

Data Structures

- class **decaf::util::MapEntry< K, V >**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.633 src/main/decaf/util/NoSuchElementException.h File Reference

```
#include <decaf/lang/exceptions/RuntimeException.h>
```

Data Structures

- class **decaf::util::NoSuchElementException**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.634 src/main/decaf/util/PriorityQueue.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/Collection.h>
#include <decaf/util/AbstractQueue.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/Comparator.h>
#include <decaf/util/comparators/Less.h>
#include <decaf/lang/Math.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <memory>
```

Data Structures

- class **decaf::util::PriorityQueueBase**
- class **decaf::util::PriorityQueue< E >**

  An unbounded priority queue based on a binary heap algorithm.

- class **decaf::util::PriorityQueue< E >::PriorityQueueIterator**
- class **decaf::util::PriorityQueue< E >::ConstPriorityQueueIterator**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.635 src/main/decaf/util/Properties.h File Reference

```
#include <vector>
#include <string>
#include <decaf/util/Config.h>
#include <decaf/util/StlMap.h>
#include <decaf/io/InputStream.h>
#include <decaf/io/OutputStream.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::util::Properties**

  Java-like properties class for mapping string names to string values.

Namespaces

- namespace **decaf**

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- namespace **decaf::io**
- namespace **decaf::util**

7.636 src/main/decaf/util/Random.h File Reference

```
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/util/Config.h>
#include <vector>
#include <cmath>
```

Data Structures

- class **decaf::util::Random**

  Random (p. *2506*) *Value Generator which is used to generate a stream of pseudorandom numbers.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.637 src/main/decaf/util/Set.h File Reference

```
#include <decaf/util/NoSuchElementException.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/AbstractCollection.h>
```

Data Structures

- class **decaf::util::Set< E >**

  A collection that contains no duplicate elements.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.638 src/main/decaf/util/StlList.h File Reference

```
#include <list>
#include <algorithm>
#include <memory>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/util/Config.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/ListIterator.h>
#include <decaf/util/List.h>
#include <decaf/util/AbstractList.h>
```

Data Structures

- class **decaf::util::StlList< E >**

  List *(p. 1889) class that wraps the STL list object to provide a simpler interface and additional methods not provided by the STL type.*

- class **decaf::util::StlList< E >::StlListIterator**
- class **decaf::util::StlList< E >::ConstStlListIterator**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.639 src/main/decaf/util/StlMap.h File Reference

```
#include <map>
#include <memory>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/exceptions/UnsupportedOperationException.h>
#include <decaf/util/ConcurrentModificationException.h>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/util/AbstractSet.h>
#include <decaf/util/AbstractCollection.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/Map.h>
#include <decaf/util/Collection.h>
#include <decaf/util/Set.h>
#include <decaf/util/Iterator.h>
```

Data Structures

- class **decaf::util::StlMap< K, V, COMPARATOR >**

  Map *(*p. *1995) template that wraps around a std::map to provide a more user-friendly interface and to provide common functions that do not exist in std::map.*

- class **decaf::util::StlMap< K, V, COMPARATOR >::AbstractMapIterator**
- class **decaf::util::StlMap< K, V, COMPARATOR >::EntryIterator**
- class **decaf::util::StlMap< K, V, COMPARATOR >::KeyIterator**
- class **decaf::util::StlMap< K, V, COMPARATOR >::ValueIterator**
- class **decaf::util::StlMap< K, V, COMPARATOR >::ConstAbstractMapIterator**
- class **decaf::util::StlMap< K, V, COMPARATOR >::ConstEntryIterator**
- class **decaf::util::StlMap< K, V, COMPARATOR >::ConstKeyIterator**
- class **decaf::util::StlMap< K, V, COMPARATOR >::ConstValueIterator**
- class **decaf::util::StlMap< K, V, COMPARATOR >::StlMapEntrySet**
- class **decaf::util::StlMap< K, V, COMPARATOR >::ConstStlMapEntrySet**
- class **decaf::util::StlMap< K, V, COMPARATOR >::StlMapKeySet**
- class **decaf::util::StlMap< K, V, COMPARATOR >::ConstStlMapKeySet**
- class **decaf::util::StlMap< K, V, COMPARATOR >::StlMapValueCollection**
- class **decaf::util::StlMap< K, V, COMPARATOR >::ConstStlMapValueCollection**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.640 src/main/decaf/util/StlQueue.h File Reference

```
#include <list>
#include <vector>
#include <decaf/util/Iterator.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::util::StlQueue< T >**

  *The **Queue** (p. 2500) class accepts messages with an psuh(m) command where m is the message to be queued.*

- class **decaf::util::StlQueue< T >::QueueIterator**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.641 src/main/decaf/util/StlSet.h File Reference

```
#include <set>
#include <vector>
#include <memory>
#include <decaf/util/NoSuchElementException.h>
#include <decaf/util/concurrent/Synchronizable.h>
#include <decaf/util/concurrent/Mutex.h>
#include <decaf/util/Iterator.h>
#include <decaf/util/AbstractSet.h>
```

Data Structures

- class **decaf::util::StlSet< E >**

  Set *(p. 2700) template that wraps around a std::set to provide a more user-friendly interface and to provide common functions that do not exist in std::set.*

- class **decaf::util::StlSet< E >::SetIterator**
- class **decaf::util::StlSet< E >::ConstSetIterator**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.642 src/main/decaf/util/StringTokenizer.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/NoSuchElementException.h>
#include <string>
#include <vector>
```

Data Structures

- class **decaf::util::StringTokenizer**

  Class that allows for parsing of string based on Tokens.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.643 src/main/decaf/util/Timer.h File Reference

```
#include <memory>
#include <decaf/util/Config.h>
#include <decaf/util/Date.h>
#include <decaf/util/concurrent/TimeUnit.h>
#include <decaf/lang/Pointer.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
```

Data Structures

- class **decaf::util::Timer**

  A facility for threads to schedule tasks for future execution in a background thread.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.644 src/main/decaf/util/TimerTask.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Runnable.h>
#include <decaf/util/concurrent/Mutex.h>
```

Data Structures

- class **decaf::util::TimerTask**

  A Base class for a task object that can be scheduled for one-time or repeated execution by a ***Timer*** *(p. 3055).*

Namespaces

- namespace **decaf**

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- namespace **decaf::internal**
- namespace **decaf::internal::util**
- namespace **decaf::util**

7.645 src/main/decaf/util/UUID.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/Comparable.h>
#include <string>
#include <vector>
```

Data Structures

- class **decaf::util::UUID**

  *A class that represents an immutable universally unique identifier (**UUID** (p. 3203)).*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**

7.646 src/main/decaf/util/zip/Adler32.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/zip/Checksum.h>
```

Data Structures

- class **decaf::util::zip::Adler32**

  Clas that can be used to compute an Adler-32 ***Checksum*** *(p. 950) for a data stream.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.647 src/main/decaf/util/zip/CheckedInputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/zip/Checksum.h>
#include <decaf/io/FilterInputStream.h>
```

Data Structures

- class **decaf::util::zip::CheckedInputStream**

  An implementation of a FilterInputStream that will maintain a ***Checksum*** *(p. 950) of the bytes read, the* ***Checksum*** *(p. 950) can then be used to verify the integrity of the input stream.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.648 src/main/decaf/util/zip/CheckedOutputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/zip/Checksum.h>
#include <decaf/io/FilterOutputStream.h>
```

Data Structures

- class **decaf::util::zip::CheckedOutputStream**

  An implementation of a FilterOutputStream that will maintain a ***Checksum*** *(p. 950) of the bytes written, the* ***Checksum*** *(p. 950) can then be used to verify the integrity of the output stream.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.649 src/main/decaf/util/zip/Checksum.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <vector>
```

Data Structures

- class **decaf::util::zip::Checksum**

  An interface used to represent ***Checksum*** *(p. 950) values in the Zip package.*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.650 src/main/decaf/util/zip/CRC32.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/util/zip/Checksum.h>
```

Data Structures

- class **decaf::util::zip::CRC32**

  Class that can be used to compute a CRC-32 checksum for a data stream.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.651 src/main/decaf/util/zip/DataFormatException.h File Reference

```
#include <decaf/lang/Exception.h>
```

Data Structures

- class **decaf::util::zip::DataFormatException**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.652 src/main/decaf/util/zip/Deflater.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <vector>
```

Data Structures

- class **decaf::util::zip::Deflater**

  This class compresses data using the DEFLATE algorithm (see `specification`*).*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.653 src/main/decaf/util/zip/DeflaterOutputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/FilterOutputStream.h>
#include <decaf/io/IOException.h>
#include <decaf/util/zip/Deflater.h>
#include <vector>
```

Data Structures

- class **decaf::util::zip::DeflaterOutputStream**

  Provides a FilterOutputStream instance that compresses the data before writing it to the wrapped OutputStream.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.654 src/main/decaf/util/zip/Inflater.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/lang/exceptions/NullPointerException.h>
#include <decaf/lang/exceptions/IllegalArgumentException.h>
#include <decaf/lang/exceptions/IllegalStateException.h>
#include <decaf/lang/exceptions/IndexOutOfBoundsException.h>
#include <decaf/util/zip/DataFormatException.h>
#include <vector>
```

Data Structures

- class **decaf::util::zip::Inflater**

  This class uncompresses data that was compressed using the DEFLATE algorithm (see `specification`*).*

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.655 src/main/decaf/util/zip/InflaterInputStream.h File Reference

```
#include <decaf/util/Config.h>
#include <decaf/io/FilterInputStream.h>
#include <decaf/io/IOException.h>
#include <decaf/util/zip/Inflater.h>
#include <vector>
```

Data Structures

- class **decaf::util::zip::InflaterInputStream**

  A FilterInputStream that decompresses data read from the wrapped InputStream instance.

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

7.656 src/main/decaf/util/zip/ZipException.h File Reference

```
#include <decaf/io/IOException.h>
```

Data Structures

- class **decaf::util::zip::ZipException**

Namespaces

- namespace **decaf**

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- namespace **decaf::util**
- namespace **decaf::util::zip**

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