| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/RMIServerImpl.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/javax/management/remote/rmi/RMIServer.html)   [**NEXT CLASS**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl_Stub.html) | [**FRAMES**](http://docs.google.com/index.html?javax/management/remote/rmi/RMIServerImpl.html)    [**NO FRAMES**](http://docs.google.com/RMIServerImpl.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

## **javax.management.remote.rmi**

Class RMIServerImpl

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **javax.management.remote.rmi.RMIServerImpl**

**All Implemented Interfaces:** [Closeable](http://docs.google.com/java/io/Closeable.html), [Remote](http://docs.google.com/java/rmi/Remote.html), [RMIServer](http://docs.google.com/javax/management/remote/rmi/RMIServer.html) **Direct Known Subclasses:** [RMIIIOPServerImpl](http://docs.google.com/javax/management/remote/rmi/RMIIIOPServerImpl.html), [RMIJRMPServerImpl](http://docs.google.com/javax/management/remote/rmi/RMIJRMPServerImpl.html)

public abstract class **RMIServerImpl**extends [Object](http://docs.google.com/java/lang/Object.html)implements [Closeable](http://docs.google.com/java/io/Closeable.html), [RMIServer](http://docs.google.com/javax/management/remote/rmi/RMIServer.html)

An RMI object representing a connector server. Remote clients can make connections using the [newClient(Object)](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#newClient(java.lang.Object)) method. This method returns an RMI object representing the connection.

User code does not usually reference this class directly. RMI connection servers are usually created with the class [RMIConnectorServer](http://docs.google.com/javax/management/remote/rmi/RMIConnectorServer.html). Remote clients usually create connections either with [JMXConnectorFactory](http://docs.google.com/javax/management/remote/JMXConnectorFactory.html) or by instantiating [RMIConnector](http://docs.google.com/javax/management/remote/rmi/RMIConnector.html).

This is an abstract class. Concrete subclasses define the details of the client connection objects, such as whether they use JRMP or IIOP.

**Since:** 1.5

| **Constructor Summary** | |
| --- | --- |
| [**RMIServerImpl**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#RMIServerImpl(java.util.Map))([Map](http://docs.google.com/java/util/Map.html)<[String](http://docs.google.com/java/lang/String.html),?> env)            Constructs a new RMIServerImpl. |

| **Method Summary** | |
| --- | --- |
| protected  void | [**clientClosed**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#clientClosed(javax.management.remote.rmi.RMIConnection))([RMIConnection](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html) client)            Method called when a client connection created by [makeClient](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#makeClient(java.lang.String,%20javax.security.auth.Subject)) is closed. |
| void | [**close**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#close())()            Closes this connection server. |
| protected abstract  void | [**closeClient**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#closeClient(javax.management.remote.rmi.RMIConnection))([RMIConnection](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html) client)            Closes a client connection made by [makeClient](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#makeClient(java.lang.String,%20javax.security.auth.Subject)). |
| protected abstract  void | [**closeServer**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#closeServer())()            Called by [close()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#close()) to close the connector server. |
| protected abstract  void | [**export**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#export())()            Exports this RMI object. |
| [ClassLoader](http://docs.google.com/java/lang/ClassLoader.html) | [**getDefaultClassLoader**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#getDefaultClassLoader())()            Gets the default ClassLoader used by this connector server. |
| [MBeanServer](http://docs.google.com/javax/management/MBeanServer.html) | [**getMBeanServer**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#getMBeanServer())()            The MBeanServer to which this connector server is attached. |
| protected abstract  [String](http://docs.google.com/java/lang/String.html) | [**getProtocol**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#getProtocol())()            Returns the protocol string for this object. |
| [String](http://docs.google.com/java/lang/String.html) | [**getVersion**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#getVersion())()            The version of the RMI Connector Protocol understood by this connector server. |
| protected abstract  [RMIConnection](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html) | [**makeClient**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#makeClient(java.lang.String,%20javax.security.auth.Subject))([String](http://docs.google.com/java/lang/String.html) connectionId, [Subject](http://docs.google.com/javax/security/auth/Subject.html) subject)            Creates a new client connection. |
| [RMIConnection](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html) | [**newClient**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#newClient(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) credentials)            Creates a new client connection. |
| void | [**setDefaultClassLoader**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#setDefaultClassLoader(java.lang.ClassLoader))([ClassLoader](http://docs.google.com/java/lang/ClassLoader.html) cl)            Sets the default ClassLoader for this connector server. |
| void | [**setMBeanServer**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#setMBeanServer(javax.management.MBeanServer))([MBeanServer](http://docs.google.com/javax/management/MBeanServer.html) mbs)            Sets the MBeanServer to which this connector server is attached. |
| abstract  [Remote](http://docs.google.com/java/rmi/Remote.html) | [**toStub**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#toStub())()            Returns a remotable stub for this server object. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [clone](http://docs.google.com/java/lang/Object.html#clone()), [equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [hashCode](http://docs.google.com/java/lang/Object.html#hashCode()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### RMIServerImpl

public **RMIServerImpl**([Map](http://docs.google.com/java/util/Map.html)<[String](http://docs.google.com/java/lang/String.html),?> env)

Constructs a new RMIServerImpl.

**Parameters:**env - the environment containing attributes for the new RMIServerImpl. Can be null, which is equivalent to an empty Map.

| **Method Detail** |
| --- |

### export

protected abstract void **export**()  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Exports this RMI object.

**Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if this RMI object cannot be exported.

### toStub

public abstract [Remote](http://docs.google.com/java/rmi/Remote.html) **toStub**()  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Returns a remotable stub for this server object.

**Returns:**a remotable stub. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if the stub cannot be obtained - e.g the RMIServerImpl has not been exported yet.

### setDefaultClassLoader

public void **setDefaultClassLoader**([ClassLoader](http://docs.google.com/java/lang/ClassLoader.html) cl)

Sets the default ClassLoader for this connector server. New client connections will use this classloader. Existing client connections are unaffected.

**Parameters:**cl - the new ClassLoader to be used by this connector server.**See Also:**[getDefaultClassLoader()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#getDefaultClassLoader())

### getDefaultClassLoader

public [ClassLoader](http://docs.google.com/java/lang/ClassLoader.html) **getDefaultClassLoader**()

Gets the default ClassLoader used by this connector server.

**Returns:**the default ClassLoader used by this connector server.

**See Also:**[setDefaultClassLoader(java.lang.ClassLoader)](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#setDefaultClassLoader(java.lang.ClassLoader))

### setMBeanServer

public void **setMBeanServer**([MBeanServer](http://docs.google.com/javax/management/MBeanServer.html) mbs)

Sets the MBeanServer to which this connector server is attached. New client connections will interact with this MBeanServer. Existing client connections are unaffected.

**Parameters:**mbs - the new MBeanServer. Can be null, but new client connections will be refused as long as it is.**See Also:**[getMBeanServer()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#getMBeanServer())

### getMBeanServer

public [MBeanServer](http://docs.google.com/javax/management/MBeanServer.html) **getMBeanServer**()

The MBeanServer to which this connector server is attached. This is the last value passed to [setMBeanServer(javax.management.MBeanServer)](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#setMBeanServer(javax.management.MBeanServer)) on this object, or null if that method has never been called.

**Returns:**the MBeanServer to which this connector is attached.**See Also:**[setMBeanServer(javax.management.MBeanServer)](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#setMBeanServer(javax.management.MBeanServer))

### getVersion

public [String](http://docs.google.com/java/lang/String.html) **getVersion**()

**Description copied from interface:** [**RMIServer**](http://docs.google.com/javax/management/remote/rmi/RMIServer.html#getVersion())

The version of the RMI Connector Protocol understood by this connector server. This is a string with the following format:

*protocol-version* *implementation-name*

The *protocol-version* is a series of two or more non-negative integers separated by periods (.). An implementation of the version described by this documentation must use the string 1.0 here.

After the protocol version there must be a space, followed by the implementation name. The format of the implementation name is unspecified. It is recommended that it include an implementation version number. An implementation can use an empty string as its implementation name, for example for security reasons.

**Specified by:**[getVersion](http://docs.google.com/javax/management/remote/rmi/RMIServer.html#getVersion()) in interface [RMIServer](http://docs.google.com/javax/management/remote/rmi/RMIServer.html) **Returns:**a string with the format described here.

### newClient

public [RMIConnection](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html) **newClient**([Object](http://docs.google.com/java/lang/Object.html) credentials)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Creates a new client connection. This method calls [makeClient](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#makeClient(java.lang.String,%20javax.security.auth.Subject)) and adds the returned client connection object to an internal list. When this RMIServerImpl is shut down via its [close()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#close()) method, the [close()](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html#close()) method of each object remaining in the list is called.

The fact that a client connection object is in this internal list does not prevent it from being garbage collected.

**Specified by:**[newClient](http://docs.google.com/javax/management/remote/rmi/RMIServer.html#newClient(java.lang.Object)) in interface [RMIServer](http://docs.google.com/javax/management/remote/rmi/RMIServer.html) **Parameters:**credentials - this object specifies the user-defined credentials to be passed in to the server in order to authenticate the caller before creating the RMIConnection. Can be null. **Returns:**the newly-created RMIConnection. This is usually the object created by makeClient, though an implementation may choose to wrap that object in another object implementing RMIConnection. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if the new client object cannot be created or exported. [SecurityException](http://docs.google.com/java/lang/SecurityException.html) - if the given credentials do not allow the server to authenticate the user successfully. [IllegalStateException](http://docs.google.com/java/lang/IllegalStateException.html) - if [getMBeanServer()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#getMBeanServer()) is null.

### makeClient

protected abstract [RMIConnection](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html) **makeClient**([String](http://docs.google.com/java/lang/String.html) connectionId,  
 [Subject](http://docs.google.com/javax/security/auth/Subject.html) subject)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Creates a new client connection. This method is called by the public method [newClient(Object)](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#newClient(java.lang.Object)).

**Parameters:**connectionId - the ID of the new connection. Every connection opened by this connector server will have a different ID. The behavior is unspecified if this parameter is null.subject - the authenticated subject. Can be null. **Returns:**the newly-created RMIConnection. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if the new client object cannot be created or exported.

### closeClient

protected abstract void **closeClient**([RMIConnection](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html) client)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Closes a client connection made by [makeClient](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#makeClient(java.lang.String,%20javax.security.auth.Subject)).

**Parameters:**client - a connection previously returned by makeClient on which the closeClient method has not previously been called. The behavior is unspecified if these conditions are violated, including the case where client is null. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if the client connection cannot be closed.

### getProtocol

protected abstract [String](http://docs.google.com/java/lang/String.html) **getProtocol**()

Returns the protocol string for this object. The string is rmi for RMI/JRMP and iiop for RMI/IIOP.

**Returns:**the protocol string for this object.

### clientClosed

protected void **clientClosed**([RMIConnection](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html) client)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Method called when a client connection created by [makeClient](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#makeClient(java.lang.String,%20javax.security.auth.Subject)) is closed. A subclass that defines makeClient must arrange for this method to be called when the resultant object's [close](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html#close()) method is called. This enables it to be removed from the RMIServerImpl's list of connections. It is not an error for client not to be in that list.

After removing client from the list of connections, this method calls [closeClient(client)](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#closeClient(javax.management.remote.rmi.RMIConnection)).

**Parameters:**client - the client connection that has been closed. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if [closeClient(javax.management.remote.rmi.RMIConnection)](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#closeClient(javax.management.remote.rmi.RMIConnection)) throws this exception. [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if client is null.

### close

public void **close**()  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Closes this connection server. This method first calls the [closeServer()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#closeServer()) method so that no new client connections will be accepted. Then, for each remaining [RMIConnection](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html) object returned by [makeClient](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#makeClient(java.lang.String,%20javax.security.auth.Subject)), its [close](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html#close()) method is called.

The behavior when this method is called more than once is unspecified.

If [closeServer()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#closeServer()) throws an IOException, the individual connections are nevertheless closed, and then the IOException is thrown from this method.

If [closeServer()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#closeServer()) returns normally but one or more of the individual connections throws an IOException, then, after closing all the connections, one of those IOExceptions is thrown from this method. If more than one connection throws an IOException, it is unspecified which one is thrown from this method.

**Specified by:**[close](http://docs.google.com/java/io/Closeable.html#close()) in interface [Closeable](http://docs.google.com/java/io/Closeable.html) **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if [closeServer()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#closeServer()) or one of the [RMIConnection.close()](http://docs.google.com/javax/management/remote/rmi/RMIConnection.html#close()) calls threw IOException.

### closeServer

protected abstract void **closeServer**()  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Called by [close()](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl.html#close()) to close the connector server. After returning from this method, the connector server must not accept any new connections.

**Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if the attempt to close the connector server failed.

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/RMIServerImpl.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/javax/management/remote/rmi/RMIServer.html)   [**NEXT CLASS**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl_Stub.html) | [**FRAMES**](http://docs.google.com/index.html?javax/management/remote/rmi/RMIServerImpl.html)    [**NO FRAMES**](http://docs.google.com/RMIServerImpl.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

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For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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