| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | [**Class**](http://docs.google.com/java/io/Serializable.html) | **Use** | [**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   NEXT | [**FRAMES**](http://docs.google.com/index.html?java/io//class-useSerializable.html)    [**NO FRAMES**](http://docs.google.com/Serializable.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |

**Uses of Interface**

**java.io.Serializable**

| Packages that use [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [**java.applet**](#3znysh7) | Provides the classes necessary to create an applet and the classes an applet uses to communicate with its applet context. |
| [**java.awt**](#2et92p0) | Contains all of the classes for creating user interfaces and for painting graphics and images. |
| [**java.awt.color**](#tyjcwt) | Provides classes for color spaces. |
| [**java.awt.datatransfer**](#3dy6vkm) | Provides interfaces and classes for transferring data between and within applications. |
| [**java.awt.dnd**](#1t3h5sf) | Drag and Drop is a direct manipulation gesture found in many Graphical User Interface systems that provides a mechanism to transfer information between two entities logically associated with presentation elements in the GUI. |
| [**java.awt.event**](#4d34og8) | Provides interfaces and classes for dealing with different types of events fired by AWT components. |
| [**java.awt.font**](#2s8eyo1) | Provides classes and interface relating to fonts. |
| [**java.awt.geom**](#17dp8vu) | Provides the Java 2D classes for defining and performing operations on objects related to two-dimensional geometry. |
| [**java.awt.image**](#3rdcrjn) | Provides classes for creating and modifying images. |
| [**java.awt.image.renderable**](#26in1rg) | Provides classes and interfaces for producing rendering-independent images. |
| [**java.awt.print**](#lnxbz9) | Provides classes and interfaces for a general printing API. |
| [**java.beans**](#35nkun2) | Contains classes related to developing *beans* -- components based on the JavaBeansTM architecture. |
| [**java.beans.beancontext**](#1ksv4uv) | Provides classes and interfaces relating to bean context. |
| [**java.io**](#44sinio) | Provides for system input and output through data streams, serialization and the file system. |
| [**java.lang**](#2jxsxqh) | Provides classes that are fundamental to the design of the Java programming language. |
| [**java.lang.annotation**](#z337ya) | Provides library support for the Java programming language annotation facility. |
| [**java.lang.instrument**](#3j2qqm3) | Provides services that allow Java programming language agents to instrument programs running on the JVM. |
| [**java.lang.management**](#1y810tw) | Provides the management interface for monitoring and management of the Java virtual machine as well as the operating system on which the Java virtual machine is running. |
| [**java.lang.reflect**](#4i7ojhp) | Provides classes and interfaces for obtaining reflective information about classes and objects. |
| [**java.math**](#2xcytpi) | Provides classes for performing arbitrary-precision integer arithmetic (BigInteger) and arbitrary-precision decimal arithmetic (BigDecimal). |
| [**java.net**](#1ci93xb) | Provides the classes for implementing networking applications. |
| [**java.nio**](#3whwml4) | Defines buffers, which are containers for data, and provides an overview of the other NIO packages. |
| [**java.nio.channels**](#2bn6wsx) | Defines channels, which represent connections to entities that are capable of performing I/O operations, such as files and sockets; defines selectors, for multiplexed, non-blocking I/O operations. |
| [**java.nio.charset**](#qsh70q) | Defines charsets, decoders, and encoders, for translating between bytes and Unicode characters. |
| [**java.rmi**](#3as4poj) | Provides the RMI package. |
| [**java.rmi.activation**](#1pxezwc) | Provides support for RMI Object Activation. |
| [**java.rmi.dgc**](#49x2ik5) | Provides classes and interface for RMI distributed garbage-collection (DGC). |
| [**java.rmi.server**](#2p2csry) | Provides classes and interfaces for supporting the server side of RMI. |
| [**java.security**](#147n2zr) | Provides the classes and interfaces for the security framework. |
| [**java.security.acl**](#3o7alnk) | The classes and interfaces in this package have been superseded by classes in the java.security package. |
| [**java.security.cert**](#23ckvvd) | Provides classes and interfaces for parsing and managing certificates, certificate revocation lists (CRLs), and certification paths. |
| [**java.security.interfaces**](#ihv636) | Provides interfaces for generating RSA (Rivest, Shamir and Adleman AsymmetricCipher algorithm) keys as defined in the RSA Laboratory Technical Note PKCS#1, and DSA (Digital Signature Algorithm) keys as defined in NIST's FIPS-186. |
| [**java.security.spec**](#32hioqz) | Provides classes and interfaces for key specifications and algorithm parameter specifications. |
| [**java.sql**](#1hmsyys) | Provides the API for accessing and processing data stored in a data source (usually a relational database) using the JavaTM programming language. |
| [**java.text**](#41mghml) | Provides classes and interfaces for handling text, dates, numbers, and messages in a manner independent of natural languages. |
| [**java.util**](#2grqrue) | Contains the collections framework, legacy collection classes, event model, date and time facilities, internationalization, and miscellaneous utility classes (a string tokenizer, a random-number generator, and a bit array). |
| [**java.util.concurrent**](#vx1227) | Utility classes commonly useful in concurrent programming. |
| [**java.util.concurrent.atomic**](#3fwokq0) | A small toolkit of classes that support lock-free thread-safe programming on single variables. |
| [**java.util.concurrent.locks**](#1v1yuxt) | Interfaces and classes providing a framework for locking and waiting for conditions that is distinct from built-in synchronization and monitors. |
| [**java.util.jar**](#4f1mdlm) | Provides classes for reading and writing the JAR (Java ARchive) file format, which is based on the standard ZIP file format with an optional manifest file. |
| [**java.util.logging**](#2u6wntf) | Provides the classes and interfaces of the JavaTM 2 platform's core logging facilities. |
| [**java.util.prefs**](#19c6y18) | This package allows applications to store and retrieve user and system preference and configuration data. |
| [**java.util.regex**](#3tbugp1) | Classes for matching character sequences against patterns specified by regular expressions. |
| [**java.util.zip**](#28h4qwu) | Provides classes for reading and writing the standard ZIP and GZIP file formats. |
| [**javax.activation**](#nmf14n) |  |
| [**javax.activity**](#37m2jsg) | Contains Activity service related exceptions thrown by the ORB machinery during unmarshalling. |
| [**javax.annotation**](#1mrcu09) |  |
| [**javax.annotation.processing**](#46r0co2) | Facilities for declaring annotation processors and for allowing annotation processors to communicate with an annotation processing tool environment. |
| [**javax.crypto**](#2lwamvv) | Provides the classes and interfaces for cryptographic operations. |
| [**javax.crypto.interfaces**](#111kx3o) | Provides interfaces for Diffie-Hellman keys as defined in RSA Laboratories' PKCS #3. |
| [**javax.crypto.spec**](#3l18frh) | Provides classes and interfaces for key specifications and algorithm parameter specifications. |
| [**javax.imageio**](#206ipza) | The main package of the Java Image I/O API. |
| [**javax.imageio.metadata**](#4k668n3) | A package of the Java Image I/O API dealing with reading and writing metadata. |
| [**javax.jws**](#2zbgiuw) |  |
| [**javax.jws.soap**](#1egqt2p) |  |
| [**javax.lang.model**](#3ygebqi) | Classes and hierarchies of packages used to model the Java programming language. |
| [**javax.lang.model.element**](#2dlolyb) | Interfaces used to model elements of the Java programming language. |
| [**javax.lang.model.type**](#sqyw64) | Interfaces used to model Java programming language types. |
| [**javax.management**](#3cqmetx) | Provides the core classes for the Java Management Extensions. |
| [**javax.management.loading**](#1rvwp1q) | Provides the classes which implement advanced dynamic loading. |
| [**javax.management.modelmbean**](#4bvk7pj) | Provides the definition of the ModelMBean classes. |
| [**javax.management.monitor**](#2r0uhxc) | Provides the definition of the monitor classes. |
| [**javax.management.openmbean**](#1664s55) | Provides the open data types and Open MBean descriptor classes. |
| [**javax.management.relation**](#3q5sasy) | Provides the definition of the Relation Service. |
| [**javax.management.remote**](#25b2l0r) | Interfaces for remote access to JMX MBean servers. |
| [**javax.management.remote.rmi**](#kgcv8k) | The RMI connector is a connector for the JMX Remote API that uses RMI to transmit client requests to a remote MBean server. |
| [**javax.management.timer**](#34g0dwd) | Provides the definition of the Timer MBean. |
| [**javax.naming**](#1jlao46) | Provides the classes and interfaces for accessing naming services. |
| [**javax.naming.directory**](#43ky6rz) | Extends the javax.naming package to provide functionality for accessing directory services. |
| [**javax.naming.event**](#2iq8gzs) | Provides support for event notification when accessing naming and directory services. |
| [**javax.naming.ldap**](#xvir7l) | Provides support for LDAPv3 extended operations and controls. |
| [**javax.naming.spi**](#3hv69ve) | Provides the means for dynamically plugging in support for accessing naming and directory services through the javax.naming and related packages. |
| [**javax.net.ssl**](#1x0gk37) | Provides classes for the secure socket package. |
| [**javax.print**](#4h042r0) | Provides the principal classes and interfaces for the JavaTM Print Service API. |
| [**javax.print.attribute**](#2w5ecyt) | Provides classes and interfaces that describe the types of JavaTM Print Service attributes and how they can be collected into attribute sets. |
| [**javax.print.attribute.standard**](#1baon6m) | Package javax.print.attribute.standard contains classes for specific printing attributes. |
| [**javax.print.event**](#3vac5uf) | Package javax.print.event contains event classes and listener interfaces. |
| [**javax.rmi.CORBA**](#2afmg28) | Contains portability APIs for RMI-IIOP. |
| [**javax.rmi.ssl**](#pkwqa1) | Provides implementations of [RMIClientSocketFactory](http://docs.google.com/java/rmi/server/RMIClientSocketFactory.html) and [RMIServerSocketFactory](http://docs.google.com/java/rmi/server/RMIServerSocketFactory.html) over the Secure Sockets Layer (SSL) or Transport Layer Security (TLS) protocols. |
| [**javax.script**](#39kk8xu) | The scripting API consists of interfaces and classes that define Java TM Scripting Engines and provides a framework for their use in Java applications. |
| [**javax.security.auth**](#1opuj5n) | This package provides a framework for authentication and authorization. |
| [**javax.security.auth.callback**](#48pi1tg) | This package provides the classes necessary for services to interact with applications in order to retrieve information (authentication data including usernames or passwords, for example) or to display information (error and warning messages, for example). |
| [**javax.security.auth.kerberos**](#2nusc19) | This package contains utility classes related to the Kerberos network authentication protocol. |
| [**javax.security.auth.login**](#1302m92) | This package provides a pluggable authentication framework. |
| [**javax.security.auth.x500**](#3mzq4wv) | This package contains the classes that should be used to store X500 Principal and X500 Private Crendentials in a *Subject*. |
| [**javax.security.sasl**](#2250f4o) | Contains class and interfaces for supporting SASL. |
| [**javax.sound.midi**](#haapch) | Provides interfaces and classes for I/O, sequencing, and synthesis of MIDI (Musical Instrument Digital Interface) data. |
| [**javax.sound.sampled**](#319y80a) | Provides interfaces and classes for capture, processing, and playback of sampled audio data. |
| [**javax.sql**](#1gf8i83) | Provides the API for server side data source access and processing from the JavaTM programming language. |
| [**javax.sql.rowset**](#40ew0vw) | Standard interfaces and base classes for JDBC RowSet implementations. |
| [**javax.sql.rowset.serial**](#2fk6b3p) | Provides utility classes to allow serializable mappings between SQL types and data types in the Java programming language. |
| [**javax.sql.rowset.spi**](#upglbi) | The standard classes and interfaces that a third party vendor has to use in its implementation of a synchronization provider. |
| [**javax.swing**](#3ep43zb) | Provides a set of "lightweight" (all-Java language) components that, to the maximum degree possible, work the same on all platforms. |
| [**javax.swing.border**](#4du1wux) | Provides classes and interface for drawing specialized borders around a Swing component. |
| [**javax.swing.colorchooser**](#2szc72q) | Contains classes and interfaces used by the JColorChooser component. |
| [**javax.swing.event**](#184mhaj) | Provides for events fired by Swing components. |
| [**javax.swing.plaf**](#3s49zyc) | Provides one interface and many abstract classes that Swing uses to provide its pluggable look-and-feel capabilities. |
| [**javax.swing.plaf.basic**](#279ka65) | Provides user interface objects built according to the Basic look and feel. |
| [**javax.swing.plaf.metal**](#meukdy) | Provides user interface objects built according to the Java look and feel (once codenamed *Metal*), which is the default look and feel. |
| [**javax.swing.plaf.synth**](#36ei31r) | Synth is a skinnable look and feel in which all painting is delegated. |
| [**javax.swing.table**](#1ljsd9k) | Provides classes and interfaces for dealing with javax.swing.JTable. |
| [**javax.swing.text**](#45jfvxd) | Provides classes and interfaces that deal with editable and noneditable text components. |
| [**javax.swing.text.html**](#2koq656) | Provides the class HTMLEditorKit and supporting classes for creating HTML text editors. |
| [**javax.swing.text.html.parser**](#zu0gcz) | Provides the default HTML parser, along with support classes. |
| [**javax.swing.text.rtf**](#3jtnz0s) | Provides a class (RTFEditorKit) for creating Rich-Text-Format text editors. |
| [**javax.swing.tree**](#1yyy98l) | Provides classes and interfaces for dealing with javax.swing.JTree. |
| [**javax.swing.undo**](#4iylrwe) | Allows developers to provide support for undo/redo in applications such as text editors. |
| [**javax.tools**](#2y3w247) | Provides interfaces for tools which can be invoked from a program, for example, compilers. |
| [**javax.transaction**](#1d96cc0) | Contains three exceptions thrown by the ORB machinery during unmarshalling. |
| [**javax.transaction.xa**](#3x8tuzt) | Provides the API that defines the contract between the transaction manager and the resource manager, which allows the transaction manager to enlist and delist resource objects (supplied by the resource manager driver) in JTA transactions. |
| [**javax.xml.bind**](#2ce457m) | Provides a runtime binding framework for client applications including unmarshalling, marshalling, and validation capabilities. |
| [**javax.xml.bind.annotation**](#rjefff) | Defines annotations for customizing Java program elements to XML Schema mapping. |
| [**javax.xml.crypto**](#3bj1y38) | Common classes for XML cryptography. |
| [**javax.xml.crypto.dsig**](#1qoc8b1) | Classes for generating and validating XML digital signatures. |
| [**javax.xml.datatype**](#4anzqyu) | XML/Java Type Mappings. |
| [**javax.xml.namespace**](#2pta16n) | XML Namespace processing. |
| [**javax.xml.parsers**](#14ykbeg) | Provides classes allowing the processing of XML documents. |
| [**javax.xml.soap**](#3oy7u29) | Provides the API for creating and building SOAP messages. |
| [**javax.xml.stream**](#243i4a2) |  |
| [**javax.xml.transform**](#j8sehv) | This package defines the generic APIs for processing transformation instructions, and performing a transformation from source to result. |
| [**javax.xml.ws**](#338fx5o) | This package contains the core JAX-WS APIs. |
| [**javax.xml.ws.handler**](#1idq7dh) | This package defines APIs for message handlers. |
| [**javax.xml.ws.http**](#42ddq1a) | This package defines APIs specific to the HTTP binding. |
| [**javax.xml.ws.soap**](#2hio093) | This package defines APIs specific to the SOAP binding. |
| [**javax.xml.xpath**](#wnyagw) | This package provides an *object-model neutral* API for the evaluation of XPath expressions and access to the evaluation environment. |
| [**org.ietf.jgss**](#3gnlt4p) | This package presents a framework that allows application developers to make use of security services like authentication, data integrity and data confidentiality from a variety of underlying security mechanisms like Kerberos, using a unified API. |
| [**org.omg.CORBA**](#1vsw3ci) | Provides the mapping of the OMG CORBA APIs to the JavaTM programming language, including the class ORB, which is implemented so that a programmer can use it as a fully-functional Object Request Broker (ORB). |
| [**org.omg.CORBA\_2\_3.portable**](#4fsjm0b) | Provides methods for the input and output of value types, and contains other updates to the org/omg/CORBA/portable package. |
| [**org.omg.CORBA.DynAnyPackage**](#2uxtw84) | Provides the exceptions used with the DynAny interface (InvalidValue, Invalid, InvalidSeq, and TypeMismatch). |
| [**org.omg.CORBA.ORBPackage**](#1a346fx) | Provides the exception InvalidName, which is thrown by the method ORB.resolve\_initial\_references and the exception InconsistentTypeCode, which is thrown by the Dynamic Any creation methods in the ORB class. |
| [**org.omg.CORBA.portable**](#3u2rp3q) | Provides a portability layer, that is, a set of ORB APIs that makes it possible for code generated by one vendor to run on another vendor's ORB. |
| [**org.omg.CORBA.TypeCodePackage**](#2981zbj) | Provides the user-defined exceptions BadKind and Bounds, which are thrown by methods in in the class TypeCode. |
| [**org.omg.CosNaming**](#odc9jc) | Provides a naming service for Java IDL. |
| [**org.omg.CosNaming.NamingContextExtPackage**](#38czs75) | This package contains the following classes, which are used in org.omg.CosNaming.NamingContextExt: |
| [**org.omg.CosNaming.NamingContextPackage**](#1nia2ey) | This package contains Exception classes for the org.omg.CosNaming package. |
| [**org.omg.Dynamic**](#47hxl2r) | This package contains the Dynamic module specified in the OMG Portable Interceptor specification, <http://cgi.omg.org/cgi-bin/doc?ptc/2000-08-06>, section 21.9. |
| [**org.omg.DynamicAny**](#2mn7vak) | Provides classes and interfaces that enable traversal of the data value associated with an any at runtime, and extraction of the primitive constituents of the data value. |
| [**org.omg.IOP**](#11si5id) | This package contains the IOP module specified in the OMG document *The Common Object Request Broker: Architecture and Specification*, <http://cgi.omg.org/cgi-bin/doc?formal/99-10-07>, section 13.6. |
| [**org.omg.IOP.CodecFactoryPackage**](#3ls5o66) | This package contains the exceptions specified in the IOP::CodeFactory interface (as part of the Portable Interceptors spec). |
| [**org.omg.IOP.CodecPackage**](#20xfydz) | This package is generated from the IOP::Codec IDL interface definition. |
| [**org.omg.PortableInterceptor**](#4kx3h1s) | Provides a mechanism to register ORB hooks through which ORB services can intercept the normal flow of execution of the ORB. |
| [**org.omg.PortableInterceptor.ORBInitInfoPackage**](#302dr9l) | This package contains the exceptions and typedefs from the ORBInitInfo local interface of the PortableInterceptor module specified in the OMG Portable Interceptor specification, <http://cgi.omg.org/cgi-bin/doc?ptc/2000-08-06>, section 21.7.2. |
| [**org.omg.PortableServer**](#1f7o1he) | Provides classes and interfaces for making the server side of your applications portable across multivendor ORBs. |
| [**org.omg.PortableServer.CurrentPackage**](#3z7bk57) | Provides method implementations with access to the identity of the object on which the method was invoked. |
| [**org.omg.PortableServer.POAManagerPackage**](#2eclud0) | Encapsulates the processing state of the POAs it is associated with. |
| [**org.omg.PortableServer.POAPackage**](#thw4kt) | Allows programmers to construct object implementations that are portable between different ORB products. |
| [**org.omg.SendingContext**](#3dhjn8m) | Provides support for the marshalling of value types. |
| [**org.omg.stub.java.rmi**](#1smtxgf) | Contains RMI-IIOP Stubs for the Remote types that occur in the java.rmi package. |
| [**org.w3c.dom**](#4cmhg48) | Provides the interfaces for the Document Object Model (DOM) which is a component API of the [Java API for XML Processing](http://java.sun.com/xml). |
| [**org.w3c.dom.events**](#2rrrqc1) |  |
| [**org.w3c.dom.ls**](#16x20ju) |  |
| [**org.xml.sax**](#3qwpj7n) | This package provides the core SAX APIs. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.applet](http://docs.google.com/java/applet/package-summary.html) | |
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| Classes in [java.applet](http://docs.google.com/java/applet/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**Applet**](http://docs.google.com/java/applet/Applet.html)            An applet is a small program that is intended not to be run on its own, but rather to be embedded inside another application. |
| protected  class | [**Applet.AccessibleApplet**](http://docs.google.com/java/applet/Applet.AccessibleApplet.html)            This class implements accessibility support for the Applet class. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt](http://docs.google.com/java/awt/package-summary.html) | |
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| Classes in [java.awt](http://docs.google.com/java/awt/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AWTError**](http://docs.google.com/java/awt/AWTError.html)            Thrown when a serious Abstract Window Toolkit error has occurred. |
| class | [**AWTEvent**](http://docs.google.com/java/awt/AWTEvent.html)            The root event class for all AWT events. |
| class | [**AWTException**](http://docs.google.com/java/awt/AWTException.html)            Signals that an Absract Window Toolkit exception has occurred. |
| class | [**AWTKeyStroke**](http://docs.google.com/java/awt/AWTKeyStroke.html)            An AWTKeyStroke represents a key action on the keyboard, or equivalent input device. |
| class | [**AWTPermission**](http://docs.google.com/java/awt/AWTPermission.html)            This class is for AWT permissions. |
| class | [**BorderLayout**](http://docs.google.com/java/awt/BorderLayout.html)            A border layout lays out a container, arranging and resizing its components to fit in five regions: north, south, east, west, and center. |
| class | [**Button**](http://docs.google.com/java/awt/Button.html)            This class creates a labeled button. |
| protected  class | [**Button.AccessibleAWTButton**](http://docs.google.com/java/awt/Button.AccessibleAWTButton.html)            This class implements accessibility support for the Button class. |
| class | [**Canvas**](http://docs.google.com/java/awt/Canvas.html)            A Canvas component represents a blank rectangular area of the screen onto which the application can draw or from which the application can trap input events from the user. |
| protected  class | [**Canvas.AccessibleAWTCanvas**](http://docs.google.com/java/awt/Canvas.AccessibleAWTCanvas.html)            This class implements accessibility support for the Canvas class. |
| class | [**CardLayout**](http://docs.google.com/java/awt/CardLayout.html)            A CardLayout object is a layout manager for a container. |
| class | [**Checkbox**](http://docs.google.com/java/awt/Checkbox.html)            A check box is a graphical component that can be in either an "on" (true) or "off" (false) state. |
| protected  class | [**Checkbox.AccessibleAWTCheckbox**](http://docs.google.com/java/awt/Checkbox.AccessibleAWTCheckbox.html)            This class implements accessibility support for the Checkbox class. |
| class | [**CheckboxGroup**](http://docs.google.com/java/awt/CheckboxGroup.html)            The CheckboxGroup class is used to group together a set of Checkbox buttons. |
| class | [**CheckboxMenuItem**](http://docs.google.com/java/awt/CheckboxMenuItem.html)            This class represents a check box that can be included in a menu. |
| protected  class | [**CheckboxMenuItem.AccessibleAWTCheckboxMenuItem**](http://docs.google.com/java/awt/CheckboxMenuItem.AccessibleAWTCheckboxMenuItem.html)            Inner class of CheckboxMenuItem used to provide default support for accessibility. |
| class | [**Choice**](http://docs.google.com/java/awt/Choice.html)            The Choice class presents a pop-up menu of choices. |
| protected  class | [**Choice.AccessibleAWTChoice**](http://docs.google.com/java/awt/Choice.AccessibleAWTChoice.html)            This class implements accessibility support for the Choice class. |
| class | [**Color**](http://docs.google.com/java/awt/Color.html)            The Color class is used to encapsulate colors in the default sRGB color space or colors in arbitrary color spaces identified by a [ColorSpace](http://docs.google.com/java/awt/color/ColorSpace.html). |
| class | [**Component**](http://docs.google.com/java/awt/Component.html)            A *component* is an object having a graphical representation that can be displayed on the screen and that can interact with the user. |
| protected  class | [**Component.AccessibleAWTComponent**](http://docs.google.com/java/awt/Component.AccessibleAWTComponent.html)            Inner class of Component used to provide default support for accessibility. |
| static class | [**Component.BaselineResizeBehavior**](http://docs.google.com/java/awt/Component.BaselineResizeBehavior.html)            Enumeration of the common ways the baseline of a component can change as the size changes. |
| class | [**ComponentOrientation**](http://docs.google.com/java/awt/ComponentOrientation.html)            The ComponentOrientation class encapsulates the language-sensitive orientation that is to be used to order the elements of a component or of text. |
| class | [**Container**](http://docs.google.com/java/awt/Container.html)            A generic Abstract Window Toolkit(AWT) container object is a component that can contain other AWT components. |
| protected  class | [**Container.AccessibleAWTContainer**](http://docs.google.com/java/awt/Container.AccessibleAWTContainer.html)            Inner class of Container used to provide default support for accessibility. |
| class | [**ContainerOrderFocusTraversalPolicy**](http://docs.google.com/java/awt/ContainerOrderFocusTraversalPolicy.html)            A FocusTraversalPolicy that determines traversal order based on the order of child Components in a Container. |
| class | [**Cursor**](http://docs.google.com/java/awt/Cursor.html)            A class to encapsulate the bitmap representation of the mouse cursor. |
| class | [**DefaultFocusTraversalPolicy**](http://docs.google.com/java/awt/DefaultFocusTraversalPolicy.html)            A FocusTraversalPolicy that determines traversal order based on the order of child Components in a Container. |
| static class | [**Desktop.Action**](http://docs.google.com/java/awt/Desktop.Action.html)            Represents an action type. |
| class | [**Dialog**](http://docs.google.com/java/awt/Dialog.html)            A Dialog is a top-level window with a title and a border that is typically used to take some form of input from the user. |
| protected  class | [**Dialog.AccessibleAWTDialog**](http://docs.google.com/java/awt/Dialog.AccessibleAWTDialog.html)            This class implements accessibility support for the Dialog class. |
| static class | [**Dialog.ModalExclusionType**](http://docs.google.com/java/awt/Dialog.ModalExclusionType.html)            Any top-level window can be marked not to be blocked by modal dialogs. |
| static class | [**Dialog.ModalityType**](http://docs.google.com/java/awt/Dialog.ModalityType.html)            Modal dialogs block all input to some top-level windows. |
| class | [**Dimension**](http://docs.google.com/java/awt/Dimension.html)            The Dimension class encapsulates the width and height of a component (in integer precision) in a single object. |
| class | [**Event**](http://docs.google.com/java/awt/Event.html)  **NOTE:** The Event class is obsolete and is available only for backwards compatilibility. |
| class | [**FileDialog**](http://docs.google.com/java/awt/FileDialog.html)            The FileDialog class displays a dialog window from which the user can select a file. |
| class | [**FlowLayout**](http://docs.google.com/java/awt/FlowLayout.html)            A flow layout arranges components in a directional flow, much like lines of text in a paragraph. |
| class | [**Font**](http://docs.google.com/java/awt/Font.html)            The Font class represents fonts, which are used to render text in a visible way. |
| class | [**FontFormatException**](http://docs.google.com/java/awt/FontFormatException.html)            Thrown by method createFont in the Font class to indicate that the specified font is bad. |
| class | [**FontMetrics**](http://docs.google.com/java/awt/FontMetrics.html)            The FontMetrics class defines a font metrics object, which encapsulates information about the rendering of a particular font on a particular screen. |
| class | [**Frame**](http://docs.google.com/java/awt/Frame.html)            A Frame is a top-level window with a title and a border. |
| protected  class | [**Frame.AccessibleAWTFrame**](http://docs.google.com/java/awt/Frame.AccessibleAWTFrame.html)            This class implements accessibility support for the Frame class. |
| class | [**GraphicsConfigTemplate**](http://docs.google.com/java/awt/GraphicsConfigTemplate.html)            The GraphicsConfigTemplate class is used to obtain a valid [GraphicsConfiguration](http://docs.google.com/java/awt/GraphicsConfiguration.html). |
| class | [**GridBagConstraints**](http://docs.google.com/java/awt/GridBagConstraints.html)            The GridBagConstraints class specifies constraints for components that are laid out using the GridBagLayout class. |
| class | [**GridBagLayout**](http://docs.google.com/java/awt/GridBagLayout.html)            The GridBagLayout class is a flexible layout manager that aligns components vertically, horizontally or along their baseline without requiring that the components be of the same size. |
| class | [**GridBagLayoutInfo**](http://docs.google.com/java/awt/GridBagLayoutInfo.html)            The GridBagLayoutInfo is an utility class for GridBagLayout layout manager. |
| class | [**GridLayout**](http://docs.google.com/java/awt/GridLayout.html)            The GridLayout class is a layout manager that lays out a container's components in a rectangular grid. |
| class | [**HeadlessException**](http://docs.google.com/java/awt/HeadlessException.html)            Thrown when code that is dependent on a keyboard, display, or mouse is called in an environment that does not support a keyboard, display, or mouse. |
| class | [**IllegalComponentStateException**](http://docs.google.com/java/awt/IllegalComponentStateException.html)            Signals that an AWT component is not in an appropriate state for the requested operation. |
| class | [**Insets**](http://docs.google.com/java/awt/Insets.html)            An Insets object is a representation of the borders of a container. |
| class | [**Label**](http://docs.google.com/java/awt/Label.html)            A Label object is a component for placing text in a container. |
| protected  class | [**Label.AccessibleAWTLabel**](http://docs.google.com/java/awt/Label.AccessibleAWTLabel.html)            This class implements accessibility support for the Label class. |
| class | [**List**](http://docs.google.com/java/awt/List.html)            The List component presents the user with a scrolling list of text items. |
| protected  class | [**List.AccessibleAWTList**](http://docs.google.com/java/awt/List.AccessibleAWTList.html)            This class implements accessibility support for the List class. |
| protected  class | [**List.AccessibleAWTList.AccessibleAWTListChild**](http://docs.google.com/java/awt/List.AccessibleAWTList.AccessibleAWTListChild.html)            This class implements accessibility support for List children. |
| class | [**MediaTracker**](http://docs.google.com/java/awt/MediaTracker.html)            The MediaTracker class is a utility class to track the status of a number of media objects. |
| class | [**Menu**](http://docs.google.com/java/awt/Menu.html)            A Menu object is a pull-down menu component that is deployed from a menu bar. |
| protected  class | [**Menu.AccessibleAWTMenu**](http://docs.google.com/java/awt/Menu.AccessibleAWTMenu.html)            Inner class of Menu used to provide default support for accessibility. |
| class | [**MenuBar**](http://docs.google.com/java/awt/MenuBar.html)            The MenuBar class encapsulates the platform's concept of a menu bar bound to a frame. |
| protected  class | [**MenuBar.AccessibleAWTMenuBar**](http://docs.google.com/java/awt/MenuBar.AccessibleAWTMenuBar.html)            Inner class of MenuBar used to provide default support for accessibility. |
| class | [**MenuComponent**](http://docs.google.com/java/awt/MenuComponent.html)            The abstract class MenuComponent is the superclass of all menu-related components. |
| protected  class | [**MenuComponent.AccessibleAWTMenuComponent**](http://docs.google.com/java/awt/MenuComponent.AccessibleAWTMenuComponent.html)            Inner class of MenuComponent used to provide default support for accessibility. |
| class | [**MenuItem**](http://docs.google.com/java/awt/MenuItem.html)            All items in a menu must belong to the class MenuItem, or one of its subclasses. |
| protected  class | [**MenuItem.AccessibleAWTMenuItem**](http://docs.google.com/java/awt/MenuItem.AccessibleAWTMenuItem.html)            Inner class of MenuItem used to provide default support for accessibility. |
| class | [**MenuShortcut**](http://docs.google.com/java/awt/MenuShortcut.html)            The MenuShortcutclass represents a keyboard accelerator for a MenuItem. |
| static class | [**MultipleGradientPaint.ColorSpaceType**](http://docs.google.com/java/awt/MultipleGradientPaint.ColorSpaceType.html)            The color space in which to perform the gradient interpolation. |
| static class | [**MultipleGradientPaint.CycleMethod**](http://docs.google.com/java/awt/MultipleGradientPaint.CycleMethod.html)            The method to use when painting outside the gradient bounds. |
| class | [**Panel**](http://docs.google.com/java/awt/Panel.html)            Panel is the simplest container class. |
| protected  class | [**Panel.AccessibleAWTPanel**](http://docs.google.com/java/awt/Panel.AccessibleAWTPanel.html)            This class implements accessibility support for the Panel class. |
| class | [**Point**](http://docs.google.com/java/awt/Point.html)            A point representing a location in (x,y) coordinate space, specified in integer precision. |
| class | [**Polygon**](http://docs.google.com/java/awt/Polygon.html)            The Polygon class encapsulates a description of a closed, two-dimensional region within a coordinate space. |
| class | [**PopupMenu**](http://docs.google.com/java/awt/PopupMenu.html)            A class that implements a menu which can be dynamically popped up at a specified position within a component. |
| protected  class | [**PopupMenu.AccessibleAWTPopupMenu**](http://docs.google.com/java/awt/PopupMenu.AccessibleAWTPopupMenu.html)            Inner class of PopupMenu used to provide default support for accessibility. |
| class | [**Rectangle**](http://docs.google.com/java/awt/Rectangle.html)            A Rectangle specifies an area in a coordinate space that is enclosed by the Rectangle object's upper-left point (x,y) in the coordinate space, its width, and its height. |
| class | [**Scrollbar**](http://docs.google.com/java/awt/Scrollbar.html)            The Scrollbar class embodies a scroll bar, a familiar user-interface object. |
| protected  class | [**Scrollbar.AccessibleAWTScrollBar**](http://docs.google.com/java/awt/Scrollbar.AccessibleAWTScrollBar.html)            This class implements accessibility support for the Scrollbar class. |
| class | [**ScrollPane**](http://docs.google.com/java/awt/ScrollPane.html)            A container class which implements automatic horizontal and/or vertical scrolling for a single child component. |
| protected  class | [**ScrollPane.AccessibleAWTScrollPane**](http://docs.google.com/java/awt/ScrollPane.AccessibleAWTScrollPane.html)            This class implements accessibility support for the ScrollPane class. |
| class | [**ScrollPaneAdjustable**](http://docs.google.com/java/awt/ScrollPaneAdjustable.html)            This class represents the state of a horizontal or vertical scrollbar of a ScrollPane. |
| class | [**SystemColor**](http://docs.google.com/java/awt/SystemColor.html)            A class to encapsulate symbolic colors representing the color of native GUI objects on a system. |
| class | [**TextArea**](http://docs.google.com/java/awt/TextArea.html)            A TextArea object is a multi-line region that displays text. |
| protected  class | [**TextArea.AccessibleAWTTextArea**](http://docs.google.com/java/awt/TextArea.AccessibleAWTTextArea.html)            This class implements accessibility support for the TextArea class. |
| class | [**TextComponent**](http://docs.google.com/java/awt/TextComponent.html)            The TextComponent class is the superclass of any component that allows the editing of some text. |
| protected  class | [**TextComponent.AccessibleAWTTextComponent**](http://docs.google.com/java/awt/TextComponent.AccessibleAWTTextComponent.html)            This class implements accessibility support for the TextComponent class. |
| class | [**TextField**](http://docs.google.com/java/awt/TextField.html)            A TextField object is a text component that allows for the editing of a single line of text. |
| protected  class | [**TextField.AccessibleAWTTextField**](http://docs.google.com/java/awt/TextField.AccessibleAWTTextField.html)            This class implements accessibility support for the TextField class. |
| static class | [**TrayIcon.MessageType**](http://docs.google.com/java/awt/TrayIcon.MessageType.html)            The message type determines which icon will be displayed in the caption of the message, and a possible system sound a message may generate upon showing. |
| class | [**Window**](http://docs.google.com/java/awt/Window.html)            A Window object is a top-level window with no borders and no menubar. |
| protected  class | [**Window.AccessibleAWTWindow**](http://docs.google.com/java/awt/Window.AccessibleAWTWindow.html)            This class implements accessibility support for the Window class. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt.color](http://docs.google.com/java/awt/color/package-summary.html) | |
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| Classes in [java.awt.color](http://docs.google.com/java/awt/color/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**CMMException**](http://docs.google.com/java/awt/color/CMMException.html)            This exception is thrown if the native CMM returns an error. |
| class | [**ColorSpace**](http://docs.google.com/java/awt/color/ColorSpace.html)            This abstract class is used to serve as a color space tag to identify the specific color space of a Color object or, via a ColorModel object, of an Image, a BufferedImage, or a GraphicsDevice. |
| class | [**ICC\_ColorSpace**](http://docs.google.com/java/awt/color/ICC_ColorSpace.html)            The ICC\_ColorSpace class is an implementation of the abstract ColorSpace class. |
| class | [**ICC\_Profile**](http://docs.google.com/java/awt/color/ICC_Profile.html)            A representation of color profile data for device independent and device dependent color spaces based on the International Color Consortium Specification ICC.1:2001-12, File Format for Color Profiles, (see <http://www.color.org>). |
| class | [**ICC\_ProfileGray**](http://docs.google.com/java/awt/color/ICC_ProfileGray.html)            A subclass of the ICC\_Profile class which represents profiles which meet the following criteria: the color space type of the profile is TYPE\_GRAY and the profile includes the grayTRCTag and mediaWhitePointTag tags. |
| class | [**ICC\_ProfileRGB**](http://docs.google.com/java/awt/color/ICC_ProfileRGB.html)            The ICC\_ProfileRGB class is a subclass of the ICC\_Profile class that represents profiles which meet the following criteria: The profile's color space type is RGB. The profile includes the redColorantTag, greenColorantTag, blueColorantTag, redTRCTag, greenTRCTag, blueTRCTag, and mediaWhitePointTag tags. The ICC\_Profile getInstance method will return an ICC\_ProfileRGB object when these conditions are met. |
| class | [**ProfileDataException**](http://docs.google.com/java/awt/color/ProfileDataException.html)            This exception is thrown when an error occurs in accessing or processing an ICC\_Profile object. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt.datatransfer](http://docs.google.com/java/awt/datatransfer/package-summary.html) | |
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| Classes in [java.awt.datatransfer](http://docs.google.com/java/awt/datatransfer/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**DataFlavor**](http://docs.google.com/java/awt/datatransfer/DataFlavor.html)            A DataFlavor provides meta information about data. |
| class | [**FlavorEvent**](http://docs.google.com/java/awt/datatransfer/FlavorEvent.html)            FlavorEvent is used to notify interested parties that available [DataFlavor](http://docs.google.com/java/awt/datatransfer/DataFlavor.html)s have changed in the [Clipboard](http://docs.google.com/java/awt/datatransfer/Clipboard.html) (the event source). |
| class | [**MimeTypeParseException**](http://docs.google.com/java/awt/datatransfer/MimeTypeParseException.html)            A class to encapsulate MimeType parsing related exceptions |
| class | [**UnsupportedFlavorException**](http://docs.google.com/java/awt/datatransfer/UnsupportedFlavorException.html)            Signals that the requested data is not supported in this flavor. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt.dnd](http://docs.google.com/java/awt/dnd/package-summary.html) | |
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| Classes in [java.awt.dnd](http://docs.google.com/java/awt/dnd/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**DragGestureEvent**](http://docs.google.com/java/awt/dnd/DragGestureEvent.html)            A DragGestureEvent is passed to DragGestureListener's dragGestureRecognized() method when a particular DragGestureRecognizer detects that a platform dependent drag initiating gesture has occurred on the Component that it is tracking. |
| class | [**DragGestureRecognizer**](http://docs.google.com/java/awt/dnd/DragGestureRecognizer.html)            The DragGestureRecognizer is an abstract base class for the specification of a platform-dependent listener that can be associated with a particular Component in order to identify platform-dependent drag initiating gestures. |
| class | [**DragSource**](http://docs.google.com/java/awt/dnd/DragSource.html)            The DragSource is the entity responsible for the initiation of the Drag and Drop operation, and may be used in a number of scenarios: 1 default instance per JVM for the lifetime of that JVM. |
| class | [**DragSourceContext**](http://docs.google.com/java/awt/dnd/DragSourceContext.html)            The DragSourceContext class is responsible for managing the initiator side of the Drag and Drop protocol. |
| class | [**DragSourceDragEvent**](http://docs.google.com/java/awt/dnd/DragSourceDragEvent.html)            The DragSourceDragEvent is delivered from the DragSourceContextPeer, via the DragSourceContext, to the DragSourceListener registered with that DragSourceContext and with its associated DragSource. |
| class | [**DragSourceDropEvent**](http://docs.google.com/java/awt/dnd/DragSourceDropEvent.html)            The DragSourceDropEvent is delivered from the DragSourceContextPeer, via the DragSourceContext, to the dragDropEnd method of DragSourceListeners registered with that DragSourceContext and with its associated DragSource. |
| class | [**DragSourceEvent**](http://docs.google.com/java/awt/dnd/DragSourceEvent.html)            This class is the base class for DragSourceDragEvent and DragSourceDropEvent. |
| class | [**DropTarget**](http://docs.google.com/java/awt/dnd/DropTarget.html)            The DropTarget is associated with a Component when that Component wishes to accept drops during Drag and Drop operations. |
| class | [**DropTargetContext**](http://docs.google.com/java/awt/dnd/DropTargetContext.html)            A DropTargetContext is created whenever the logical cursor associated with a Drag and Drop operation coincides with the visible geometry of a Component associated with a DropTarget. |
| class | [**DropTargetDragEvent**](http://docs.google.com/java/awt/dnd/DropTargetDragEvent.html)            The DropTargetDragEvent is delivered to a DropTargetListener via its dragEnter() and dragOver() methods. |
| class | [**DropTargetDropEvent**](http://docs.google.com/java/awt/dnd/DropTargetDropEvent.html)            The DropTargetDropEvent is delivered via the DropTargetListener drop() method. |
| class | [**DropTargetEvent**](http://docs.google.com/java/awt/dnd/DropTargetEvent.html)            The DropTargetEvent is the base class for both the DropTargetDragEvent and the DropTargetDropEvent. |
| class | [**InvalidDnDOperationException**](http://docs.google.com/java/awt/dnd/InvalidDnDOperationException.html)            This exception is thrown by various methods in the java.awt.dnd package. |
| class | [**MouseDragGestureRecognizer**](http://docs.google.com/java/awt/dnd/MouseDragGestureRecognizer.html)            This abstract subclass of DragGestureRecognizer defines a DragGestureRecognizer for mouse-based gestures. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt.event](http://docs.google.com/java/awt/event/package-summary.html) | |
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| Classes in [java.awt.event](http://docs.google.com/java/awt/event/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**ActionEvent**](http://docs.google.com/java/awt/event/ActionEvent.html)            A semantic event which indicates that a component-defined action occurred. |
| class | [**AdjustmentEvent**](http://docs.google.com/java/awt/event/AdjustmentEvent.html)            The adjustment event emitted by Adjustable objects. |
| class | [**ComponentEvent**](http://docs.google.com/java/awt/event/ComponentEvent.html)            A low-level event which indicates that a component moved, changed size, or changed visibility (also, the root class for the other component-level events). |
| class | [**ContainerEvent**](http://docs.google.com/java/awt/event/ContainerEvent.html)            A low-level event which indicates that a container's contents changed because a component was added or removed. |
| class | [**FocusEvent**](http://docs.google.com/java/awt/event/FocusEvent.html)            A low-level event which indicates that a Component has gained or lost the input focus. |
| class | [**HierarchyEvent**](http://docs.google.com/java/awt/event/HierarchyEvent.html)            An event which indicates a change to the Component hierarchy to which a Component belongs. |
| class | [**InputEvent**](http://docs.google.com/java/awt/event/InputEvent.html)            The root event class for all component-level input events. |
| class | [**InputMethodEvent**](http://docs.google.com/java/awt/event/InputMethodEvent.html)            Input method events contain information about text that is being composed using an input method. |
| class | [**InvocationEvent**](http://docs.google.com/java/awt/event/InvocationEvent.html)            An event which executes the run() method on a Runnable when dispatched by the AWT event dispatcher thread. |
| class | [**ItemEvent**](http://docs.google.com/java/awt/event/ItemEvent.html)            A semantic event which indicates that an item was selected or deselected. |
| class | [**KeyEvent**](http://docs.google.com/java/awt/event/KeyEvent.html)            An event which indicates that a keystroke occurred in a component. |
| class | [**MouseEvent**](http://docs.google.com/java/awt/event/MouseEvent.html)            An event which indicates that a mouse action occurred in a component. |
| class | [**MouseWheelEvent**](http://docs.google.com/java/awt/event/MouseWheelEvent.html)            An event which indicates that the mouse wheel was rotated in a component. |
| class | [**PaintEvent**](http://docs.google.com/java/awt/event/PaintEvent.html)            The component-level paint event. |
| class | [**TextEvent**](http://docs.google.com/java/awt/event/TextEvent.html)            A semantic event which indicates that an object's text changed. |
| class | [**WindowEvent**](http://docs.google.com/java/awt/event/WindowEvent.html)            A low-level event that indicates that a window has changed its status. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt.font](http://docs.google.com/java/awt/font/package-summary.html) | |
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| Classes in [java.awt.font](http://docs.google.com/java/awt/font/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**NumericShaper**](http://docs.google.com/java/awt/font/NumericShaper.html)            The NumericShaper class is used to convert Latin-1 (European) digits to other Unicode decimal digits. |
| class | [**TextAttribute**](http://docs.google.com/java/awt/font/TextAttribute.html)            The TextAttribute class defines attribute keys and attribute values used for text rendering. |
| class | [**TransformAttribute**](http://docs.google.com/java/awt/font/TransformAttribute.html)            The TransformAttribute class provides an immutable wrapper for a transform so that it is safe to use as an attribute. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt.geom](http://docs.google.com/java/awt/geom/package-summary.html) | |
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| Classes in [java.awt.geom](http://docs.google.com/java/awt/geom/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AffineTransform**](http://docs.google.com/java/awt/geom/AffineTransform.html)            The AffineTransform class represents a 2D affine transform that performs a linear mapping from 2D coordinates to other 2D coordinates that preserves the "straightness" and "parallelness" of lines. |
| static class | [**Arc2D.Double**](http://docs.google.com/java/awt/geom/Arc2D.Double.html)            This class defines an arc specified in double precision. |
| static class | [**Arc2D.Float**](http://docs.google.com/java/awt/geom/Arc2D.Float.html)            This class defines an arc specified in float precision. |
| static class | [**CubicCurve2D.Double**](http://docs.google.com/java/awt/geom/CubicCurve2D.Double.html)            A cubic parametric curve segment specified with double coordinates. |
| static class | [**CubicCurve2D.Float**](http://docs.google.com/java/awt/geom/CubicCurve2D.Float.html)            A cubic parametric curve segment specified with float coordinates. |
| static class | [**Ellipse2D.Double**](http://docs.google.com/java/awt/geom/Ellipse2D.Double.html)            The Double class defines an ellipse specified in double precision. |
| static class | [**Ellipse2D.Float**](http://docs.google.com/java/awt/geom/Ellipse2D.Float.html)            The Float class defines an ellipse specified in float precision. |
| class | [**GeneralPath**](http://docs.google.com/java/awt/geom/GeneralPath.html)            The GeneralPath class represents a geometric path constructed from straight lines, and quadratic and cubic (Bézier) curves. |
| class | [**IllegalPathStateException**](http://docs.google.com/java/awt/geom/IllegalPathStateException.html)            The IllegalPathStateException represents an exception that is thrown if an operation is performed on a path that is in an illegal state with respect to the particular operation being performed, such as appending a path segment to a [GeneralPath](http://docs.google.com/java/awt/geom/GeneralPath.html) without an initial moveto. |
| static class | [**Line2D.Double**](http://docs.google.com/java/awt/geom/Line2D.Double.html)            A line segment specified with double coordinates. |
| static class | [**Line2D.Float**](http://docs.google.com/java/awt/geom/Line2D.Float.html)            A line segment specified with float coordinates. |
| class | [**NoninvertibleTransformException**](http://docs.google.com/java/awt/geom/NoninvertibleTransformException.html)            The NoninvertibleTransformException class represents an exception that is thrown if an operation is performed requiring the inverse of an [AffineTransform](http://docs.google.com/java/awt/geom/AffineTransform.html) object but the AffineTransform is in a non-invertible state. |
| static class | [**Path2D.Double**](http://docs.google.com/java/awt/geom/Path2D.Double.html)            The Double class defines a geometric path with coordinates stored in double precision floating point. |
| static class | [**Path2D.Float**](http://docs.google.com/java/awt/geom/Path2D.Float.html)            The Float class defines a geometric path with coordinates stored in single precision floating point. |
| static class | [**Point2D.Double**](http://docs.google.com/java/awt/geom/Point2D.Double.html)            The Double class defines a point specified in double precision. |
| static class | [**Point2D.Float**](http://docs.google.com/java/awt/geom/Point2D.Float.html)            The Float class defines a point specified in float precision. |
| static class | [**QuadCurve2D.Double**](http://docs.google.com/java/awt/geom/QuadCurve2D.Double.html)            A quadratic parametric curve segment specified with double coordinates. |
| static class | [**QuadCurve2D.Float**](http://docs.google.com/java/awt/geom/QuadCurve2D.Float.html)            A quadratic parametric curve segment specified with float coordinates. |
| static class | [**Rectangle2D.Double**](http://docs.google.com/java/awt/geom/Rectangle2D.Double.html)            The Double class defines a rectangle specified in double coordinates. |
| static class | [**Rectangle2D.Float**](http://docs.google.com/java/awt/geom/Rectangle2D.Float.html)            The Float class defines a rectangle specified in float coordinates. |
| static class | [**RoundRectangle2D.Double**](http://docs.google.com/java/awt/geom/RoundRectangle2D.Double.html)            The Double class defines a rectangle with rounded corners all specified in double coordinates. |
| static class | [**RoundRectangle2D.Float**](http://docs.google.com/java/awt/geom/RoundRectangle2D.Float.html)            The Float class defines a rectangle with rounded corners all specified in float coordinates. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt.image](http://docs.google.com/java/awt/image/package-summary.html) | |
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| Classes in [java.awt.image](http://docs.google.com/java/awt/image/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**ImagingOpException**](http://docs.google.com/java/awt/image/ImagingOpException.html)            The ImagingOpException is thrown if one of the [BufferedImageOp](http://docs.google.com/java/awt/image/BufferedImageOp.html) or [RasterOp](http://docs.google.com/java/awt/image/RasterOp.html) filter methods cannot process the image. |
| class | [**RasterFormatException**](http://docs.google.com/java/awt/image/RasterFormatException.html)            The RasterFormatException is thrown if there is invalid layout information in the [Raster](http://docs.google.com/java/awt/image/Raster.html). |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt.image.renderable](http://docs.google.com/java/awt/image/renderable/package-summary.html) | |
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| Classes in [java.awt.image.renderable](http://docs.google.com/java/awt/image/renderable/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**ParameterBlock**](http://docs.google.com/java/awt/image/renderable/ParameterBlock.html)            A ParameterBlock encapsulates all the information about sources and parameters (Objects) required by a RenderableImageOp, or other classes that process images. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.awt.print](http://docs.google.com/java/awt/print/package-summary.html) | |
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| Classes in [java.awt.print](http://docs.google.com/java/awt/print/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**PrinterAbortException**](http://docs.google.com/java/awt/print/PrinterAbortException.html)            The PrinterAbortException class is a subclass of [PrinterException](http://docs.google.com/java/awt/print/PrinterException.html) and is used to indicate that a user or application has terminated the print job while it was in the process of printing. |
| class | [**PrinterException**](http://docs.google.com/java/awt/print/PrinterException.html)            The PrinterException class and its subclasses are used to indicate that an exceptional condition has occurred in the print system. |
| class | [**PrinterIOException**](http://docs.google.com/java/awt/print/PrinterIOException.html)            The PrinterIOException class is a subclass of [PrinterException](http://docs.google.com/java/awt/print/PrinterException.html) and is used to indicate that an IO error of some sort has occurred while printing. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.beans](http://docs.google.com/java/beans/package-summary.html) | |
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| Classes in [java.beans](http://docs.google.com/java/beans/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**IndexedPropertyChangeEvent**](http://docs.google.com/java/beans/IndexedPropertyChangeEvent.html)            An "IndexedPropertyChange" event gets delivered whenever a component that conforms to the JavaBeans specification (a "bean") changes a bound indexed property. |
| class | [**IntrospectionException**](http://docs.google.com/java/beans/IntrospectionException.html)            Thrown when an exception happens during Introspection. |
| class | [**PropertyChangeEvent**](http://docs.google.com/java/beans/PropertyChangeEvent.html)            A "PropertyChange" event gets delivered whenever a bean changes a "bound" or "constrained" property. |
| class | [**PropertyChangeSupport**](http://docs.google.com/java/beans/PropertyChangeSupport.html)            This is a utility class that can be used by beans that support bound properties. |
| class | [**PropertyVetoException**](http://docs.google.com/java/beans/PropertyVetoException.html)            A PropertyVetoException is thrown when a proposed change to a property represents an unacceptable value. |
| class | [**VetoableChangeSupport**](http://docs.google.com/java/beans/VetoableChangeSupport.html)            This is a utility class that can be used by beans that support constrained properties. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.beans.beancontext](http://docs.google.com/java/beans/beancontext/package-summary.html) | |
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| Classes in [java.beans.beancontext](http://docs.google.com/java/beans/beancontext/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**BeanContextChildSupport**](http://docs.google.com/java/beans/beancontext/BeanContextChildSupport.html)             This is a general support class to provide support for implementing the BeanContextChild protocol. |
| class | [**BeanContextEvent**](http://docs.google.com/java/beans/beancontext/BeanContextEvent.html)             BeanContextEvent is the abstract root event class for all events emitted from, and pertaining to the semantics of, a BeanContext. |
| class | [**BeanContextMembershipEvent**](http://docs.google.com/java/beans/beancontext/BeanContextMembershipEvent.html)            A BeanContextMembershipEvent encapsulates the list of children added to, or removed from, the membership of a particular BeanContext. |
| class | [**BeanContextServiceAvailableEvent**](http://docs.google.com/java/beans/beancontext/BeanContextServiceAvailableEvent.html)             This event type is used by the BeanContextServicesListener in order to identify the service being registered. |
| class | [**BeanContextServiceRevokedEvent**](http://docs.google.com/java/beans/beancontext/BeanContextServiceRevokedEvent.html)             This event type is used by the BeanContextServiceRevokedListener in order to identify the service being revoked. |
| class | [**BeanContextServicesSupport**](http://docs.google.com/java/beans/beancontext/BeanContextServicesSupport.html)             This helper class provides a utility implementation of the java.beans.beancontext.BeanContextServices interface. |
| protected  class | [**BeanContextServicesSupport.BCSSChild**](http://docs.google.com/java/beans/beancontext/BeanContextServicesSupport.BCSSChild.html) |
| protected static class | [**BeanContextServicesSupport.BCSSServiceProvider**](http://docs.google.com/java/beans/beancontext/BeanContextServicesSupport.BCSSServiceProvider.html)            subclasses may subclass this nested class to add behaviors for each BeanContextServicesProvider. |
| class | [**BeanContextSupport**](http://docs.google.com/java/beans/beancontext/BeanContextSupport.html)            This helper class provides a utility implementation of the java.beans.beancontext.BeanContext interface. |
| protected  class | [**BeanContextSupport.BCSChild**](http://docs.google.com/java/beans/beancontext/BeanContextSupport.BCSChild.html) |

| Methods in [java.beans.beancontext](http://docs.google.com/java/beans/beancontext/package-summary.html) that return [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| protected static [Serializable](http://docs.google.com/java/io/Serializable.html) | **BeanContextSupport.**[**getChildSerializable**](http://docs.google.com/java/beans/beancontext/BeanContextSupport.html#getChildSerializable(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) child)            Gets the Serializable (if any) associated with the specified Child |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.io](http://docs.google.com/java/io/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.io](http://docs.google.com/java/io/package-summary.html) | |
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| interface | [**Externalizable**](http://docs.google.com/java/io/Externalizable.html)            Only the identity of the class of an Externalizable instance is written in the serialization stream and it is the responsibility of the class to save and restore the contents of its instances. |

| Classes in [java.io](http://docs.google.com/java/io/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**CharConversionException**](http://docs.google.com/java/io/CharConversionException.html)            Base class for character conversion exceptions. |
| class | [**EOFException**](http://docs.google.com/java/io/EOFException.html)            Signals that an end of file or end of stream has been reached unexpectedly during input. |
| class | [**File**](http://docs.google.com/java/io/File.html)            An abstract representation of file and directory pathnames. |
| class | [**FileNotFoundException**](http://docs.google.com/java/io/FileNotFoundException.html)            Signals that an attempt to open the file denoted by a specified pathname has failed. |
| class | [**FilePermission**](http://docs.google.com/java/io/FilePermission.html)            This class represents access to a file or directory. |
| class | [**InterruptedIOException**](http://docs.google.com/java/io/InterruptedIOException.html)            Signals that an I/O operation has been interrupted. |
| class | [**InvalidClassException**](http://docs.google.com/java/io/InvalidClassException.html)            Thrown when the Serialization runtime detects one of the following problems with a Class. |
| class | [**InvalidObjectException**](http://docs.google.com/java/io/InvalidObjectException.html)            Indicates that one or more deserialized objects failed validation tests. |
| class | [**IOError**](http://docs.google.com/java/io/IOError.html)            Thrown when a serious I/O error has occurred. |
| class | [**IOException**](http://docs.google.com/java/io/IOException.html)            Signals that an I/O exception of some sort has occurred. |
| class | [**NotActiveException**](http://docs.google.com/java/io/NotActiveException.html)            Thrown when serialization or deserialization is not active. |
| class | [**NotSerializableException**](http://docs.google.com/java/io/NotSerializableException.html)            Thrown when an instance is required to have a Serializable interface. |
| class | [**ObjectStreamClass**](http://docs.google.com/java/io/ObjectStreamClass.html)            Serialization's descriptor for classes. |
| class | [**ObjectStreamException**](http://docs.google.com/java/io/ObjectStreamException.html)            Superclass of all exceptions specific to Object Stream classes. |
| class | [**OptionalDataException**](http://docs.google.com/java/io/OptionalDataException.html)            Exception indicating the failure of an object read operation due to unread primitive data, or the end of data belonging to a serialized object in the stream. |
| class | [**SerializablePermission**](http://docs.google.com/java/io/SerializablePermission.html)            This class is for Serializable permissions. |
| class | [**StreamCorruptedException**](http://docs.google.com/java/io/StreamCorruptedException.html)            Thrown when control information that was read from an object stream violates internal consistency checks. |
| class | [**SyncFailedException**](http://docs.google.com/java/io/SyncFailedException.html)            Signals that a sync operation has failed. |
| class | [**UnsupportedEncodingException**](http://docs.google.com/java/io/UnsupportedEncodingException.html)            The Character Encoding is not supported. |
| class | [**UTFDataFormatException**](http://docs.google.com/java/io/UTFDataFormatException.html)            Signals that a malformed string in [modified UTF-8](http://docs.google.com/java/io/DataInput.html#modified-utf-8) format has been read in a data input stream or by any class that implements the data input interface. |
| class | [**WriteAbortedException**](http://docs.google.com/java/io/WriteAbortedException.html)            Signals that one of the ObjectStreamExceptions was thrown during a write operation. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.lang](http://docs.google.com/java/lang/package-summary.html) | |
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| Classes in [java.lang](http://docs.google.com/java/lang/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AbstractMethodError**](http://docs.google.com/java/lang/AbstractMethodError.html)            Thrown when an application tries to call an abstract method. |
| class | [**ArithmeticException**](http://docs.google.com/java/lang/ArithmeticException.html)            Thrown when an exceptional arithmetic condition has occurred. |
| class | [**ArrayIndexOutOfBoundsException**](http://docs.google.com/java/lang/ArrayIndexOutOfBoundsException.html)            Thrown to indicate that an array has been accessed with an illegal index. |
| class | [**ArrayStoreException**](http://docs.google.com/java/lang/ArrayStoreException.html)            Thrown to indicate that an attempt has been made to store the wrong type of object into an array of objects. |
| class | [**AssertionError**](http://docs.google.com/java/lang/AssertionError.html)            Thrown to indicate that an assertion has failed. |
| class | [**Boolean**](http://docs.google.com/java/lang/Boolean.html)            The Boolean class wraps a value of the primitive type boolean in an object. |
| class | [**Byte**](http://docs.google.com/java/lang/Byte.html)            The Byte class wraps a value of primitive type byte in an object. |
| class | [**Character**](http://docs.google.com/java/lang/Character.html)            The Character class wraps a value of the primitive type char in an object. |
| class | [**Class<T>**](http://docs.google.com/java/lang/Class.html)            Instances of the class Class represent classes and interfaces in a running Java application. |
| class | [**ClassCastException**](http://docs.google.com/java/lang/ClassCastException.html)            Thrown to indicate that the code has attempted to cast an object to a subclass of which it is not an instance. |
| class | [**ClassCircularityError**](http://docs.google.com/java/lang/ClassCircularityError.html)            Thrown when a circularity has been detected while initializing a class. |
| class | [**ClassFormatError**](http://docs.google.com/java/lang/ClassFormatError.html)            Thrown when the Java Virtual Machine attempts to read a class file and determines that the file is malformed or otherwise cannot be interpreted as a class file. |
| class | [**ClassNotFoundException**](http://docs.google.com/java/lang/ClassNotFoundException.html)            Thrown when an application tries to load in a class through its string name using: The forName method in class Class. |
| class | [**CloneNotSupportedException**](http://docs.google.com/java/lang/CloneNotSupportedException.html)            Thrown to indicate that the clone method in class Object has been called to clone an object, but that the object's class does not implement the Cloneable interface. |
| class | [**Double**](http://docs.google.com/java/lang/Double.html)            The Double class wraps a value of the primitive type double in an object. |
| class | [**Enum<E extends Enum<E>>**](http://docs.google.com/java/lang/Enum.html)            This is the common base class of all Java language enumeration types. |
| class | [**EnumConstantNotPresentException**](http://docs.google.com/java/lang/EnumConstantNotPresentException.html)            Thrown when an application tries to access an enum constant by name and the enum type contains no constant with the specified name. |
| class | [**Error**](http://docs.google.com/java/lang/Error.html)            An Error is a subclass of Throwable that indicates serious problems that a reasonable application should not try to catch. |
| class | [**Exception**](http://docs.google.com/java/lang/Exception.html)            The class Exception and its subclasses are a form of Throwable that indicates conditions that a reasonable application might want to catch. |
| class | [**ExceptionInInitializerError**](http://docs.google.com/java/lang/ExceptionInInitializerError.html)            Signals that an unexpected exception has occurred in a static initializer. |
| class | [**Float**](http://docs.google.com/java/lang/Float.html)            The Float class wraps a value of primitive type float in an object. |
| class | [**IllegalAccessError**](http://docs.google.com/java/lang/IllegalAccessError.html)            Thrown if an application attempts to access or modify a field, or to call a method that it does not have access to. |
| class | [**IllegalAccessException**](http://docs.google.com/java/lang/IllegalAccessException.html)            An IllegalAccessException is thrown when an application tries to reflectively create an instance (other than an array), set or get a field, or invoke a method, but the currently executing method does not have access to the definition of the specified class, field, method or constructor. |
| class | [**IllegalArgumentException**](http://docs.google.com/java/lang/IllegalArgumentException.html)            Thrown to indicate that a method has been passed an illegal or inappropriate argument. |
| class | [**IllegalMonitorStateException**](http://docs.google.com/java/lang/IllegalMonitorStateException.html)            Thrown to indicate that a thread has attempted to wait on an object's monitor or to notify other threads waiting on an object's monitor without owning the specified monitor. |
| class | [**IllegalStateException**](http://docs.google.com/java/lang/IllegalStateException.html)            Signals that a method has been invoked at an illegal or inappropriate time. |
| class | [**IllegalThreadStateException**](http://docs.google.com/java/lang/IllegalThreadStateException.html)            Thrown to indicate that a thread is not in an appropriate state for the requested operation. |
| class | [**IncompatibleClassChangeError**](http://docs.google.com/java/lang/IncompatibleClassChangeError.html)            Thrown when an incompatible class change has occurred to some class definition. |
| class | [**IndexOutOfBoundsException**](http://docs.google.com/java/lang/IndexOutOfBoundsException.html)            Thrown to indicate that an index of some sort (such as to an array, to a string, or to a vector) is out of range. |
| class | [**InstantiationError**](http://docs.google.com/java/lang/InstantiationError.html)            Thrown when an application tries to use the Java new construct to instantiate an abstract class or an interface. |
| class | [**InstantiationException**](http://docs.google.com/java/lang/InstantiationException.html)            Thrown when an application tries to create an instance of a class using the newInstance method in class Class, but the specified class object cannot be instantiated. |
| class | [**Integer**](http://docs.google.com/java/lang/Integer.html)            The Integer class wraps a value of the primitive type int in an object. |
| class | [**InternalError**](http://docs.google.com/java/lang/InternalError.html)            Thrown to indicate some unexpected internal error has occurred in the Java Virtual Machine. |
| class | [**InterruptedException**](http://docs.google.com/java/lang/InterruptedException.html)            Thrown when a thread is waiting, sleeping, or otherwise occupied, and the thread is interrupted, either before or during the activity. |
| class | [**LinkageError**](http://docs.google.com/java/lang/LinkageError.html)            Subclasses of LinkageError indicate that a class has some dependency on another class; however, the latter class has incompatibly changed after the compilation of the former class. |
| class | [**Long**](http://docs.google.com/java/lang/Long.html)            The Long class wraps a value of the primitive type long in an object. |
| class | [**NegativeArraySizeException**](http://docs.google.com/java/lang/NegativeArraySizeException.html)            Thrown if an application tries to create an array with negative size. |
| class | [**NoClassDefFoundError**](http://docs.google.com/java/lang/NoClassDefFoundError.html)            Thrown if the Java Virtual Machine or a ClassLoader instance tries to load in the definition of a class (as part of a normal method call or as part of creating a new instance using the new expression) and no definition of the class could be found. |
| class | [**NoSuchFieldError**](http://docs.google.com/java/lang/NoSuchFieldError.html)            Thrown if an application tries to access or modify a specified field of an object, and that object no longer has that field. |
| class | [**NoSuchFieldException**](http://docs.google.com/java/lang/NoSuchFieldException.html)            Signals that the class doesn't have a field of a specified name. |
| class | [**NoSuchMethodError**](http://docs.google.com/java/lang/NoSuchMethodError.html)            Thrown if an application tries to call a specified method of a class (either static or instance), and that class no longer has a definition of that method. |
| class | [**NoSuchMethodException**](http://docs.google.com/java/lang/NoSuchMethodException.html)            Thrown when a particular method cannot be found. |
| class | [**NullPointerException**](http://docs.google.com/java/lang/NullPointerException.html)            Thrown when an application attempts to use null in a case where an object is required. |
| class | [**Number**](http://docs.google.com/java/lang/Number.html)            The abstract class Number is the superclass of classes BigDecimal, BigInteger, Byte, Double, Float, Integer, Long, and Short. |
| class | [**NumberFormatException**](http://docs.google.com/java/lang/NumberFormatException.html)            Thrown to indicate that the application has attempted to convert a string to one of the numeric types, but that the string does not have the appropriate format. |
| class | [**OutOfMemoryError**](http://docs.google.com/java/lang/OutOfMemoryError.html)            Thrown when the Java Virtual Machine cannot allocate an object because it is out of memory, and no more memory could be made available by the garbage collector. |
| class | [**RuntimeException**](http://docs.google.com/java/lang/RuntimeException.html)            RuntimeException is the superclass of those exceptions that can be thrown during the normal operation of the Java Virtual Machine. |
| class | [**RuntimePermission**](http://docs.google.com/java/lang/RuntimePermission.html)            This class is for runtime permissions. |
| class | [**SecurityException**](http://docs.google.com/java/lang/SecurityException.html)            Thrown by the security manager to indicate a security violation. |
| class | [**Short**](http://docs.google.com/java/lang/Short.html)            The Short class wraps a value of primitive type short in an object. |
| class | [**StackOverflowError**](http://docs.google.com/java/lang/StackOverflowError.html)            Thrown when a stack overflow occurs because an application recurses too deeply. |
| class | [**StackTraceElement**](http://docs.google.com/java/lang/StackTraceElement.html)            An element in a stack trace, as returned by [Throwable.getStackTrace()](http://docs.google.com/java/lang/Throwable.html#getStackTrace()). |
| class | [**String**](http://docs.google.com/java/lang/String.html)            The String class represents character strings. |
| class | [**StringBuffer**](http://docs.google.com/java/lang/StringBuffer.html)            A thread-safe, mutable sequence of characters. |
| class | [**StringBuilder**](http://docs.google.com/java/lang/StringBuilder.html)            A mutable sequence of characters. |
| class | [**StringIndexOutOfBoundsException**](http://docs.google.com/java/lang/StringIndexOutOfBoundsException.html)            Thrown by String methods to indicate that an index is either negative or greater than the size of the string. |
| static class | [**Thread.State**](http://docs.google.com/java/lang/Thread.State.html)            A thread state. |
| class | [**ThreadDeath**](http://docs.google.com/java/lang/ThreadDeath.html)            An instance of ThreadDeath is thrown in the victim thread when the stop method with zero arguments in class Thread is called. |
| class | [**Throwable**](http://docs.google.com/java/lang/Throwable.html)            The Throwable class is the superclass of all errors and exceptions in the Java language. |
| class | [**TypeNotPresentException**](http://docs.google.com/java/lang/TypeNotPresentException.html)            Thrown when an application tries to access a type using a string representing the type's name, but no definition for the type with the specified name can be found. |
| class | [**UnknownError**](http://docs.google.com/java/lang/UnknownError.html)            Thrown when an unknown but serious exception has occurred in the Java Virtual Machine. |
| class | [**UnsatisfiedLinkError**](http://docs.google.com/java/lang/UnsatisfiedLinkError.html)            Thrown if the Java Virtual Machine cannot find an appropriate native-language definition of a method declared native. |
| class | [**UnsupportedClassVersionError**](http://docs.google.com/java/lang/UnsupportedClassVersionError.html)            Thrown when the Java Virtual Machine attempts to read a class file and determines that the major and minor version numbers in the file are not supported. |
| class | [**UnsupportedOperationException**](http://docs.google.com/java/lang/UnsupportedOperationException.html)            Thrown to indicate that the requested operation is not supported. |
| class | [**VerifyError**](http://docs.google.com/java/lang/VerifyError.html)            Thrown when the "verifier" detects that a class file, though well formed, contains some sort of internal inconsistency or security problem. |
| class | [**VirtualMachineError**](http://docs.google.com/java/lang/VirtualMachineError.html)            Thrown to indicate that the Java Virtual Machine is broken or has run out of resources necessary for it to continue operating. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.lang.annotation](http://docs.google.com/java/lang/annotation/package-summary.html) | |
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| Classes in [java.lang.annotation](http://docs.google.com/java/lang/annotation/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AnnotationFormatError**](http://docs.google.com/java/lang/annotation/AnnotationFormatError.html)            Thrown when the annotation parser attempts to read an annotation from a class file and determines that the annotation is malformed. |
| class | [**AnnotationTypeMismatchException**](http://docs.google.com/java/lang/annotation/AnnotationTypeMismatchException.html)            Thrown to indicate that a program has attempted to access an element of an annotation whose type has changed after the annotation was compiled (or serialized). |
| class | [**ElementType**](http://docs.google.com/java/lang/annotation/ElementType.html)            A program element type. |
| class | [**IncompleteAnnotationException**](http://docs.google.com/java/lang/annotation/IncompleteAnnotationException.html)            Thrown to indicate that a program has attempted to access an element of an annotation type that was added to the annotation type definition after the annotation was compiled (or serialized). |
| class | [**RetentionPolicy**](http://docs.google.com/java/lang/annotation/RetentionPolicy.html)            Annotation retention policy. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.lang.instrument](http://docs.google.com/java/lang/instrument/package-summary.html) | |
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| Classes in [java.lang.instrument](http://docs.google.com/java/lang/instrument/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**IllegalClassFormatException**](http://docs.google.com/java/lang/instrument/IllegalClassFormatException.html)            Thrown by an implementation of [ClassFileTransformer.transform](http://docs.google.com/java/lang/instrument/ClassFileTransformer.html#transform(java.lang.ClassLoader,%20java.lang.String,%20java.lang.Class,%20java.security.ProtectionDomain,%20byte%5B%5D)) when its input parameters are invalid. |
| class | [**UnmodifiableClassException**](http://docs.google.com/java/lang/instrument/UnmodifiableClassException.html)            Thrown by an implementation of [Instrumentation.redefineClasses](http://docs.google.com/java/lang/instrument/Instrumentation.html#redefineClasses(java.lang.instrument.ClassDefinition...)) when one of the specified classes cannot be modified. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.lang.management](http://docs.google.com/java/lang/management/package-summary.html) | |
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| Classes in [java.lang.management](http://docs.google.com/java/lang/management/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**ManagementPermission**](http://docs.google.com/java/lang/management/ManagementPermission.html)            The permission which the SecurityManager will check when code that is running with a SecurityManager calls methods defined in the management interface for the Java platform. |
| class | [**MemoryType**](http://docs.google.com/java/lang/management/MemoryType.html)            Types of [memory pools](http://docs.google.com/java/lang/management/MemoryPoolMXBean.html). |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.lang.reflect](http://docs.google.com/java/lang/reflect/package-summary.html) | |
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| Classes in [java.lang.reflect](http://docs.google.com/java/lang/reflect/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**GenericSignatureFormatError**](http://docs.google.com/java/lang/reflect/GenericSignatureFormatError.html)            Thrown when a syntactically malformed signature attribute is encountered by a reflective method that needs to interpret the generic signature information for a type, method or constructor. |
| class | [**InvocationTargetException**](http://docs.google.com/java/lang/reflect/InvocationTargetException.html)            InvocationTargetException is a checked exception that wraps an exception thrown by an invoked method or constructor. |
| class | [**MalformedParameterizedTypeException**](http://docs.google.com/java/lang/reflect/MalformedParameterizedTypeException.html)            Thrown when a semantically malformed parameterized type is encountered by a reflective method that needs to instantiate it. |
| class | [**Proxy**](http://docs.google.com/java/lang/reflect/Proxy.html)            Proxy provides static methods for creating dynamic proxy classes and instances, and it is also the superclass of all dynamic proxy classes created by those methods. |
| class | [**ReflectPermission**](http://docs.google.com/java/lang/reflect/ReflectPermission.html)            The Permission class for reflective operations. |
| class | [**UndeclaredThrowableException**](http://docs.google.com/java/lang/reflect/UndeclaredThrowableException.html)            Thrown by a method invocation on a proxy instance if its invocation handler's [invoke](http://docs.google.com/java/lang/reflect/InvocationHandler.html#invoke(java.lang.Object,%20java.lang.reflect.Method,%20java.lang.Object%5B%5D)) method throws a checked exception (a Throwable that is not assignable to RuntimeException or Error) that is not assignable to any of the exception types declared in the throws clause of the method that was invoked on the proxy instance and dispatched to the invocation handler. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.math](http://docs.google.com/java/math/package-summary.html) | |
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| Classes in [java.math](http://docs.google.com/java/math/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**BigDecimal**](http://docs.google.com/java/math/BigDecimal.html)            Immutable, arbitrary-precision signed decimal numbers. |
| class | [**BigInteger**](http://docs.google.com/java/math/BigInteger.html)            Immutable arbitrary-precision integers. |
| class | [**MathContext**](http://docs.google.com/java/math/MathContext.html)            Immutable objects which encapsulate the context settings which describe certain rules for numerical operators, such as those implemented by the [BigDecimal](http://docs.google.com/java/math/BigDecimal.html) class. |
| class | [**RoundingMode**](http://docs.google.com/java/math/RoundingMode.html)            Specifies a *rounding behavior* for numerical operations capable of discarding precision. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.net](http://docs.google.com/java/net/package-summary.html) | |
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| Classes in [java.net](http://docs.google.com/java/net/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| static class | [**Authenticator.RequestorType**](http://docs.google.com/java/net/Authenticator.RequestorType.html)            The type of the entity requesting authentication. |
| class | [**BindException**](http://docs.google.com/java/net/BindException.html)            Signals that an error occurred while attempting to bind a socket to a local address and port. |
| class | [**ConnectException**](http://docs.google.com/java/net/ConnectException.html)            Signals that an error occurred while attempting to connect a socket to a remote address and port. |
| class | [**HttpRetryException**](http://docs.google.com/java/net/HttpRetryException.html)            Thrown to indicate that a HTTP request needs to be retried but cannot be retried automatically, due to streaming mode being enabled. |
| class | [**Inet4Address**](http://docs.google.com/java/net/Inet4Address.html)            This class represents an Internet Protocol version 4 (IPv4) address. |
| class | [**Inet6Address**](http://docs.google.com/java/net/Inet6Address.html)            This class represents an Internet Protocol version 6 (IPv6) address. |
| class | [**InetAddress**](http://docs.google.com/java/net/InetAddress.html)            This class represents an Internet Protocol (IP) address. |
| class | [**InetSocketAddress**](http://docs.google.com/java/net/InetSocketAddress.html)            This class implements an IP Socket Address (IP address + port number) It can also be a pair (hostname + port number), in which case an attempt will be made to resolve the hostname. |
| class | [**MalformedURLException**](http://docs.google.com/java/net/MalformedURLException.html)            Thrown to indicate that a malformed URL has occurred. |
| class | [**NetPermission**](http://docs.google.com/java/net/NetPermission.html)            This class is for various network permissions. |
| class | [**NoRouteToHostException**](http://docs.google.com/java/net/NoRouteToHostException.html)            Signals that an error occurred while attempting to connect a socket to a remote address and port. |
| class | [**PortUnreachableException**](http://docs.google.com/java/net/PortUnreachableException.html)            Signals that an ICMP Port Unreachable message has been received on a connected datagram. |
| class | [**ProtocolException**](http://docs.google.com/java/net/ProtocolException.html)            Thrown to indicate that there is an error in the underlying protocol, such as a TCP error. |
| static class | [**Proxy.Type**](http://docs.google.com/java/net/Proxy.Type.html)            Represents the proxy type. |
| class | [**SocketAddress**](http://docs.google.com/java/net/SocketAddress.html)            This class represents a Socket Address with no protocol attachment. |
| class | [**SocketException**](http://docs.google.com/java/net/SocketException.html)            Thrown to indicate that there is an error in the underlying protocol, such as a TCP error. |
| class | [**SocketPermission**](http://docs.google.com/java/net/SocketPermission.html)            This class represents access to a network via sockets. |
| class | [**SocketTimeoutException**](http://docs.google.com/java/net/SocketTimeoutException.html)            Signals that a timeout has occurred on a socket read or accept. |
| class | [**UnknownHostException**](http://docs.google.com/java/net/UnknownHostException.html)            Thrown to indicate that the IP address of a host could not be determined. |
| class | [**UnknownServiceException**](http://docs.google.com/java/net/UnknownServiceException.html)            Thrown to indicate that an unknown service exception has occurred. |
| class | [**URI**](http://docs.google.com/java/net/URI.html)            Represents a Uniform Resource Identifier (URI) reference. |
| class | [**URISyntaxException**](http://docs.google.com/java/net/URISyntaxException.html)            Checked exception thrown to indicate that a string could not be parsed as a URI reference. |
| class | [**URL**](http://docs.google.com/java/net/URL.html)            Class URL represents a Uniform Resource Locator, a pointer to a "resource" on the World Wide Web. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.nio](http://docs.google.com/java/nio/package-summary.html) | |
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| Classes in [java.nio](http://docs.google.com/java/nio/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**BufferOverflowException**](http://docs.google.com/java/nio/BufferOverflowException.html)            Unchecked exception thrown when a relative *put* operation reaches the target buffer's limit. |
| class | [**BufferUnderflowException**](http://docs.google.com/java/nio/BufferUnderflowException.html)            Unchecked exception thrown when a relative *get* operation reaches the source buffer's limit. |
| class | [**InvalidMarkException**](http://docs.google.com/java/nio/InvalidMarkException.html)            Unchecked exception thrown when an attempt is made to reset a buffer when its mark is not defined. |
| class | [**ReadOnlyBufferException**](http://docs.google.com/java/nio/ReadOnlyBufferException.html)            Unchecked exception thrown when a content-mutation method such as put or compact is invoked upon a read-only buffer. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.nio.channels](http://docs.google.com/java/nio/channels/package-summary.html) | |
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| Classes in [java.nio.channels](http://docs.google.com/java/nio/channels/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AlreadyConnectedException**](http://docs.google.com/java/nio/channels/AlreadyConnectedException.html)            Unchecked exception thrown when an attempt is made to connect a [SocketChannel](http://docs.google.com/java/nio/channels/SocketChannel.html) that is already connected. |
| class | [**AsynchronousCloseException**](http://docs.google.com/java/nio/channels/AsynchronousCloseException.html)            Checked exception received by a thread when another thread closes the channel or the part of the channel upon which it is blocked in an I/O operation. |
| class | [**CancelledKeyException**](http://docs.google.com/java/nio/channels/CancelledKeyException.html)            Unchecked exception thrown when an attempt is made to use a selection key that is no longer valid. |
| class | [**ClosedByInterruptException**](http://docs.google.com/java/nio/channels/ClosedByInterruptException.html)            Checked exception received by a thread when another thread interrupts it while it is blocked in an I/O operation upon a channel. |
| class | [**ClosedChannelException**](http://docs.google.com/java/nio/channels/ClosedChannelException.html)            Checked exception thrown when an attempt is made to invoke or complete an I/O operation upon channel that is closed, or at least closed to that operation. |
| class | [**ClosedSelectorException**](http://docs.google.com/java/nio/channels/ClosedSelectorException.html)            Unchecked exception thrown when an attempt is made to invoke an I/O operation upon a closed selector. |
| class | [**ConnectionPendingException**](http://docs.google.com/java/nio/channels/ConnectionPendingException.html)            Unchecked exception thrown when an attempt is made to connect a [SocketChannel](http://docs.google.com/java/nio/channels/SocketChannel.html) for which a non-blocking connection operation is already in progress. |
| class | [**FileLockInterruptionException**](http://docs.google.com/java/nio/channels/FileLockInterruptionException.html)            Checked exception received by a thread when another thread interrupts it while it is waiting to acquire a file lock. |
| class | [**IllegalBlockingModeException**](http://docs.google.com/java/nio/channels/IllegalBlockingModeException.html)            Unchecked exception thrown when a blocking-mode-specific operation is invoked upon a channel in the incorrect blocking mode. |
| class | [**IllegalSelectorException**](http://docs.google.com/java/nio/channels/IllegalSelectorException.html)            Unchecked exception thrown when an attempt is made to register a channel with a selector that was not created by the provider that created the channel. |
| class | [**NoConnectionPendingException**](http://docs.google.com/java/nio/channels/NoConnectionPendingException.html)            Unchecked exception thrown when the [finishConnect](http://docs.google.com/java/nio/channels/SocketChannel.html#finishConnect()) method of a [SocketChannel](http://docs.google.com/java/nio/channels/SocketChannel.html) is invoked without first successfully invoking its [connect](http://docs.google.com/java/nio/channels/SocketChannel.html#connect(java.net.SocketAddress)) method. |
| class | [**NonReadableChannelException**](http://docs.google.com/java/nio/channels/NonReadableChannelException.html)            Unchecked exception thrown when an attempt is made to read from a channel that was not originally opened for reading. |
| class | [**NonWritableChannelException**](http://docs.google.com/java/nio/channels/NonWritableChannelException.html)            Unchecked exception thrown when an attempt is made to write to a channel that was not originally opened for writing. |
| class | [**NotYetBoundException**](http://docs.google.com/java/nio/channels/NotYetBoundException.html)            Unchecked exception thrown when an attempt is made to invoke an I/O operation upon a server socket channel that is not yet bound. |
| class | [**NotYetConnectedException**](http://docs.google.com/java/nio/channels/NotYetConnectedException.html)            Unchecked exception thrown when an attempt is made to invoke an I/O operation upon a socket channel that is not yet connected. |
| class | [**OverlappingFileLockException**](http://docs.google.com/java/nio/channels/OverlappingFileLockException.html)            Unchecked exception thrown when an attempt is made to acquire a lock on a region of a file that overlaps a region already locked by the same Java virtual machine, or when another thread is already waiting to lock an overlapping region of the same file. |
| class | [**UnresolvedAddressException**](http://docs.google.com/java/nio/channels/UnresolvedAddressException.html)            Unchecked exception thrown when an attempt is made to invoke a network operation upon an unresolved socket address. |
| class | [**UnsupportedAddressTypeException**](http://docs.google.com/java/nio/channels/UnsupportedAddressTypeException.html)            Unchecked exception thrown when an attempt is made to bind or connect to a socket address of a type that is not supported. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.nio.charset](http://docs.google.com/java/nio/charset/package-summary.html) | |
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| Classes in [java.nio.charset](http://docs.google.com/java/nio/charset/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**CharacterCodingException**](http://docs.google.com/java/nio/charset/CharacterCodingException.html)            Checked exception thrown when a character encoding or decoding error occurs. |
| class | [**CoderMalfunctionError**](http://docs.google.com/java/nio/charset/CoderMalfunctionError.html)            Error thrown when the [decodeLoop](http://docs.google.com/java/nio/charset/CharsetDecoder.html#decodeLoop(java.nio.ByteBuffer,%20java.nio.CharBuffer)) method of a [CharsetDecoder](http://docs.google.com/java/nio/charset/CharsetDecoder.html), or the [encodeLoop](http://docs.google.com/java/nio/charset/CharsetEncoder.html#encodeLoop(java.nio.CharBuffer,%20java.nio.ByteBuffer)) method of a [CharsetEncoder](http://docs.google.com/java/nio/charset/CharsetEncoder.html), throws an unexpected exception. |
| class | [**IllegalCharsetNameException**](http://docs.google.com/java/nio/charset/IllegalCharsetNameException.html)            Unchecked exception thrown when a string that is not a [legal charset name](http://docs.google.com/java/nio/charset/Charset.html#names) is used as such. |
| class | [**MalformedInputException**](http://docs.google.com/java/nio/charset/MalformedInputException.html)            Checked exception thrown when an input byte sequence is not legal for given charset, or an input character sequence is not a legal sixteen-bit Unicode sequence. |
| class | [**UnmappableCharacterException**](http://docs.google.com/java/nio/charset/UnmappableCharacterException.html)            Checked exception thrown when an input character (or byte) sequence is valid but cannot be mapped to an output byte (or character) sequence. |
| class | [**UnsupportedCharsetException**](http://docs.google.com/java/nio/charset/UnsupportedCharsetException.html)            Unchecked exception thrown when no support is available for a requested charset. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.rmi](http://docs.google.com/java/rmi/package-summary.html) | |
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| Classes in [java.rmi](http://docs.google.com/java/rmi/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AccessException**](http://docs.google.com/java/rmi/AccessException.html)            An AccessException is thrown by certain methods of the java.rmi.Naming class (specifically bind, rebind, and unbind) and methods of the java.rmi.activation.ActivationSystem interface to indicate that the caller does not have permission to perform the action requested by the method call. |
| class | [**AlreadyBoundException**](http://docs.google.com/java/rmi/AlreadyBoundException.html)            An AlreadyBoundException is thrown if an attempt is made to bind an object in the registry to a name that already has an associated binding. |
| class | [**ConnectIOException**](http://docs.google.com/java/rmi/ConnectIOException.html)            A ConnectIOException is thrown if an IOException occurs while making a connection to the remote host for a remote method call. |
| class | [**MarshalException**](http://docs.google.com/java/rmi/MarshalException.html)            A MarshalException is thrown if a java.io.IOException occurs while marshalling the remote call header, arguments or return value for a remote method call. |
| class | [**MarshalledObject<T>**](http://docs.google.com/java/rmi/MarshalledObject.html)            A MarshalledObject contains a byte stream with the serialized representation of an object given to its constructor. |
| class | [**NoSuchObjectException**](http://docs.google.com/java/rmi/NoSuchObjectException.html)            A NoSuchObjectException is thrown if an attempt is made to invoke a method on an object that no longer exists in the remote virtual machine. |
| class | [**NotBoundException**](http://docs.google.com/java/rmi/NotBoundException.html)            A NotBoundException is thrown if an attempt is made to lookup or unbind in the registry a name that has no associated binding. |
| class | [**RemoteException**](http://docs.google.com/java/rmi/RemoteException.html)            A RemoteException is the common superclass for a number of communication-related exceptions that may occur during the execution of a remote method call. |
| class | [**RMISecurityException**](http://docs.google.com/java/rmi/RMISecurityException.html)  **Deprecated.** *Use* [*SecurityException*](http://docs.google.com/java/lang/SecurityException.html) *instead. Application code should never directly reference this class, and RMISecurityManager no longer throws this subclass of java.lang.SecurityException.* |
| class | [**ServerError**](http://docs.google.com/java/rmi/ServerError.html)            A ServerError is thrown as a result of a remote method invocation when an Error is thrown while processing the invocation on the server, either while unmarshalling the arguments, executing the remote method itself, or marshalling the return value. |
| class | [**ServerException**](http://docs.google.com/java/rmi/ServerException.html)            A ServerException is thrown as a result of a remote method invocation when a RemoteException is thrown while processing the invocation on the server, either while unmarshalling the arguments or executing the remote method itself. |
| class | [**ServerRuntimeException**](http://docs.google.com/java/rmi/ServerRuntimeException.html)  **Deprecated.** *no replacement* |
| class | [**StubNotFoundException**](http://docs.google.com/java/rmi/StubNotFoundException.html)            A StubNotFoundException is thrown if a valid stub class could not be found for a remote object when it is exported. |
| class | [**UnexpectedException**](http://docs.google.com/java/rmi/UnexpectedException.html)            An UnexpectedException is thrown if the client of a remote method call receives, as a result of the call, a checked exception that is not among the checked exception types declared in the throws clause of the method in the remote interface. |
| class | [**UnmarshalException**](http://docs.google.com/java/rmi/UnmarshalException.html)            An UnmarshalException can be thrown while unmarshalling the parameters or results of a remote method call if any of the following conditions occur: if an exception occurs while unmarshalling the call header if the protocol for the return value is invalid if a java.io.IOException occurs unmarshalling parameters (on the server side) or the return value (on the client side). |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.rmi.activation](http://docs.google.com/java/rmi/activation/package-summary.html) | |
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| Classes in [java.rmi.activation](http://docs.google.com/java/rmi/activation/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**Activatable**](http://docs.google.com/java/rmi/activation/Activatable.html)            The Activatable class provides support for remote objects that require persistent access over time and that can be activated by the system. |
| class | [**ActivateFailedException**](http://docs.google.com/java/rmi/activation/ActivateFailedException.html)            This exception is thrown by the RMI runtime when activation fails during a remote call to an activatable object. |
| class | [**ActivationDesc**](http://docs.google.com/java/rmi/activation/ActivationDesc.html)            An activation descriptor contains the information necessary to activate an object: the object's group identifier, the object's fully-qualified class name, the object's code location (the location of the class), a codebase URL path, the object's restart "mode", and, a "marshalled" object that can contain object specific initialization data. |
| class | [**ActivationException**](http://docs.google.com/java/rmi/activation/ActivationException.html)            General exception used by the activation interfaces. |
| class | [**ActivationGroup**](http://docs.google.com/java/rmi/activation/ActivationGroup.html)            An ActivationGroup is responsible for creating new instances of "activatable" objects in its group, informing its ActivationMonitor when either: its object's become active or inactive, or the group as a whole becomes inactive. |
| class | [**ActivationGroup\_Stub**](http://docs.google.com/java/rmi/activation/ActivationGroup_Stub.html)            ActivationGroup\_Stub is a stub class for the subclasses of java.rmi.activation.ActivationGroup that are exported as a java.rmi.server.UnicastRemoteObject. |
| class | [**ActivationGroupDesc**](http://docs.google.com/java/rmi/activation/ActivationGroupDesc.html)            An activation group descriptor contains the information necessary to create/recreate an activation group in which to activate objects. |
| static class | [**ActivationGroupDesc.CommandEnvironment**](http://docs.google.com/java/rmi/activation/ActivationGroupDesc.CommandEnvironment.html)            Startup options for ActivationGroup implementations. |
| class | [**ActivationGroupID**](http://docs.google.com/java/rmi/activation/ActivationGroupID.html)            The identifier for a registered activation group serves several purposes: identifies the group uniquely within the activation system, and contains a reference to the group's activation system so that the group can contact its activation system when necessary. |
| class | [**ActivationID**](http://docs.google.com/java/rmi/activation/ActivationID.html)            Activation makes use of special identifiers to denote remote objects that can be activated over time. |
| class | [**UnknownGroupException**](http://docs.google.com/java/rmi/activation/UnknownGroupException.html)            An UnknownGroupException is thrown by methods of classes and interfaces in the java.rmi.activation package when the ActivationGroupID parameter to the method is determined to be invalid, i.e., not known by the ActivationSystem. |
| class | [**UnknownObjectException**](http://docs.google.com/java/rmi/activation/UnknownObjectException.html)            An UnknownObjectException is thrown by methods of classes and interfaces in the java.rmi.activation package when the ActivationID parameter to the method is determined to be invalid. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.rmi.dgc](http://docs.google.com/java/rmi/dgc/package-summary.html) | |
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| Classes in [java.rmi.dgc](http://docs.google.com/java/rmi/dgc/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**Lease**](http://docs.google.com/java/rmi/dgc/Lease.html)            A lease contains a unique VM identifier and a lease duration. |
| class | [**VMID**](http://docs.google.com/java/rmi/dgc/VMID.html)            A VMID is a identifier that is unique across all Java virtual machines. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.rmi.server](http://docs.google.com/java/rmi/server/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.rmi.server](http://docs.google.com/java/rmi/server/package-summary.html) | |
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| interface | [**RemoteRef**](http://docs.google.com/java/rmi/server/RemoteRef.html)            RemoteRef represents the handle for a remote object. |
| interface | [**ServerRef**](http://docs.google.com/java/rmi/server/ServerRef.html)            A ServerRef represents the server-side handle for a remote object implementation. |

| Classes in [java.rmi.server](http://docs.google.com/java/rmi/server/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**ExportException**](http://docs.google.com/java/rmi/server/ExportException.html)            An ExportException is a RemoteException thrown if an attempt to export a remote object fails. |
| class | [**ObjID**](http://docs.google.com/java/rmi/server/ObjID.html)            An ObjID is used to identify a remote object exported to an RMI runtime. |
| class | [**RemoteObject**](http://docs.google.com/java/rmi/server/RemoteObject.html)            The RemoteObject class implements the java.lang.Object behavior for remote objects. |
| class | [**RemoteObjectInvocationHandler**](http://docs.google.com/java/rmi/server/RemoteObjectInvocationHandler.html)            An implementation of the InvocationHandler interface for use with Java Remote Method Invocation (Java RMI). |
| class | [**RemoteServer**](http://docs.google.com/java/rmi/server/RemoteServer.html)            The RemoteServer class is the common superclass to server implementations and provides the framework to support a wide range of remote reference semantics. |
| class | [**RemoteStub**](http://docs.google.com/java/rmi/server/RemoteStub.html)            The RemoteStub class is the common superclass to client stubs and provides the framework to support a wide range of remote reference semantics. |
| class | [**ServerCloneException**](http://docs.google.com/java/rmi/server/ServerCloneException.html)            A ServerCloneException is thrown if a remote exception occurs during the cloning of a UnicastRemoteObject. |
| class | [**ServerNotActiveException**](http://docs.google.com/java/rmi/server/ServerNotActiveException.html)            An ServerNotActiveException is an Exception thrown during a call to RemoteServer.getClientHost if the getClientHost method is called outside of servicing a remote method call. |
| class | [**SkeletonMismatchException**](http://docs.google.com/java/rmi/server/SkeletonMismatchException.html)  **Deprecated.** *no replacement. Skeletons are no longer required for remote method calls in the Java 2 platform v1.2 and greater.* |
| class | [**SkeletonNotFoundException**](http://docs.google.com/java/rmi/server/SkeletonNotFoundException.html)  **Deprecated.** *no replacement. Skeletons are no longer required for remote method calls in the Java 2 platform v1.2 and greater.* |
| class | [**SocketSecurityException**](http://docs.google.com/java/rmi/server/SocketSecurityException.html)            An obsolete subclass of [ExportException](http://docs.google.com/java/rmi/server/ExportException.html). |
| class | [**UID**](http://docs.google.com/java/rmi/server/UID.html)            A UID represents an identifier that is unique over time with respect to the host it is generated on, or one of 216 "well-known" identifiers. |
| class | [**UnicastRemoteObject**](http://docs.google.com/java/rmi/server/UnicastRemoteObject.html)            Used for exporting a remote object with JRMP and obtaining a stub that communicates to the remote object. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.security](http://docs.google.com/java/security/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.security](http://docs.google.com/java/security/package-summary.html) | |
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| interface | [**Key**](http://docs.google.com/java/security/Key.html)            The Key interface is the top-level interface for all keys. |
| interface | [**PrivateKey**](http://docs.google.com/java/security/PrivateKey.html)            A private key. |
| interface | [**PublicKey**](http://docs.google.com/java/security/PublicKey.html)            A public key. |

| Classes in [java.security](http://docs.google.com/java/security/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AccessControlException**](http://docs.google.com/java/security/AccessControlException.html)             This exception is thrown by the AccessController to indicate that a requested access (to a critical system resource such as the file system or the network) is denied. |
| class | [**AllPermission**](http://docs.google.com/java/security/AllPermission.html)            The AllPermission is a permission that implies all other permissions. |
| class | [**AuthProvider**](http://docs.google.com/java/security/AuthProvider.html)            This class defines login and logout methods for a provider. |
| class | [**BasicPermission**](http://docs.google.com/java/security/BasicPermission.html)            The BasicPermission class extends the Permission class, and can be used as the base class for permissions that want to follow the same naming convention as BasicPermission. |
| class | [**CodeSigner**](http://docs.google.com/java/security/CodeSigner.html)            This class encapsulates information about a code signer. |
| class | [**CodeSource**](http://docs.google.com/java/security/CodeSource.html)            This class extends the concept of a codebase to encapsulate not only the location (URL) but also the certificate chains that were used to verify signed code originating from that location. |
| class | [**DigestException**](http://docs.google.com/java/security/DigestException.html)            This is the generic Message Digest exception. |
| class | [**GeneralSecurityException**](http://docs.google.com/java/security/GeneralSecurityException.html)            The GeneralSecurityException class is a generic security exception class that provides type safety for all the security-related exception classes that extend from it. |
| class | [**GuardedObject**](http://docs.google.com/java/security/GuardedObject.html)            A GuardedObject is an object that is used to protect access to another object. |
| class | [**Identity**](http://docs.google.com/java/security/Identity.html)  **Deprecated.** *This class is no longer used. Its functionality has been replaced by java.security.KeyStore, the java.security.cert package, and java.security.Principal.* |
| class | [**IdentityScope**](http://docs.google.com/java/security/IdentityScope.html)  **Deprecated.** *This class is no longer used. Its functionality has been replaced by java.security.KeyStore, the java.security.cert package, and java.security.Principal.* |
| class | [**InvalidAlgorithmParameterException**](http://docs.google.com/java/security/InvalidAlgorithmParameterException.html)            This is the exception for invalid or inappropriate algorithm parameters. |
| class | [**InvalidKeyException**](http://docs.google.com/java/security/InvalidKeyException.html)            This is the exception for invalid Keys (invalid encoding, wrong length, uninitialized, etc). |
| class | [**InvalidParameterException**](http://docs.google.com/java/security/InvalidParameterException.html)            This exception, designed for use by the JCA/JCE engine classes, is thrown when an invalid parameter is passed to a method. |
| class | [**KeyException**](http://docs.google.com/java/security/KeyException.html)            This is the basic key exception. |
| class | [**KeyManagementException**](http://docs.google.com/java/security/KeyManagementException.html)            This is the general key management exception for all operations dealing with key management. |
| class | [**KeyPair**](http://docs.google.com/java/security/KeyPair.html)            This class is a simple holder for a key pair (a public key and a private key). |
| class | [**KeyRep**](http://docs.google.com/java/security/KeyRep.html)            Standardized representation for serialized Key objects. |
| static class | [**KeyRep.Type**](http://docs.google.com/java/security/KeyRep.Type.html)            Key type. |
| class | [**KeyStoreException**](http://docs.google.com/java/security/KeyStoreException.html)            This is the generic KeyStore exception. |
| class | [**NoSuchAlgorithmException**](http://docs.google.com/java/security/NoSuchAlgorithmException.html)            This exception is thrown when a particular cryptographic algorithm is requested but is not available in the environment. |
| class | [**NoSuchProviderException**](http://docs.google.com/java/security/NoSuchProviderException.html)            This exception is thrown when a particular security provider is requested but is not available in the environment. |
| class | [**Permission**](http://docs.google.com/java/security/Permission.html)            Abstract class for representing access to a system resource. |
| class | [**PermissionCollection**](http://docs.google.com/java/security/PermissionCollection.html)            Abstract class representing a collection of Permission objects. |
| class | [**Permissions**](http://docs.google.com/java/security/Permissions.html)            This class represents a heterogeneous collection of Permissions. |
| class | [**PrivilegedActionException**](http://docs.google.com/java/security/PrivilegedActionException.html)            This exception is thrown by doPrivileged(PrivilegedExceptionAction) and doPrivileged(PrivilegedExceptionAction, AccessControlContext context) to indicate that the action being performed threw a checked exception. |
| class | [**Provider**](http://docs.google.com/java/security/Provider.html)            This class represents a "provider" for the Java Security API, where a provider implements some or all parts of Java Security. |
| class | [**ProviderException**](http://docs.google.com/java/security/ProviderException.html)            A runtime exception for Provider exceptions (such as misconfiguration errors or unrecoverable internal errors), which may be subclassed by Providers to throw specialized, provider-specific runtime errors. |
| class | [**SecureRandom**](http://docs.google.com/java/security/SecureRandom.html)            This class provides a cryptographically strong random number generator (RNG). |
| class | [**SecureRandomSpi**](http://docs.google.com/java/security/SecureRandomSpi.html)            This class defines the *Service Provider Interface* (**SPI**) for the SecureRandom class. |
| class | [**SecurityPermission**](http://docs.google.com/java/security/SecurityPermission.html)            This class is for security permissions. |
| class | [**SignatureException**](http://docs.google.com/java/security/SignatureException.html)            This is the generic Signature exception. |
| class | [**SignedObject**](http://docs.google.com/java/security/SignedObject.html)             SignedObject is a class for the purpose of creating authentic runtime objects whose integrity cannot be compromised without being detected. |
| class | [**Signer**](http://docs.google.com/java/security/Signer.html)  **Deprecated.** *This class is no longer used. Its functionality has been replaced by java.security.KeyStore, the java.security.cert package, and java.security.Principal.* |
| class | [**Timestamp**](http://docs.google.com/java/security/Timestamp.html)            This class encapsulates information about a signed timestamp. |
| class | [**UnrecoverableEntryException**](http://docs.google.com/java/security/UnrecoverableEntryException.html)            This exception is thrown if an entry in the keystore cannot be recovered. |
| class | [**UnrecoverableKeyException**](http://docs.google.com/java/security/UnrecoverableKeyException.html)            This exception is thrown if a key in the keystore cannot be recovered. |
| class | [**UnresolvedPermission**](http://docs.google.com/java/security/UnresolvedPermission.html)            The UnresolvedPermission class is used to hold Permissions that were "unresolved" when the Policy was initialized. |

| Constructors in [java.security](http://docs.google.com/java/security/package-summary.html) with parameters of type [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| [**SignedObject**](http://docs.google.com/java/security/SignedObject.html#SignedObject(java.io.Serializable,%20java.security.PrivateKey,%20java.security.Signature))([Serializable](http://docs.google.com/java/io/Serializable.html) object, [PrivateKey](http://docs.google.com/java/security/PrivateKey.html) signingKey, [Signature](http://docs.google.com/java/security/Signature.html) signingEngine)            Constructs a SignedObject from any Serializable object. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.security.acl](http://docs.google.com/java/security/acl/package-summary.html) | |
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| Classes in [java.security.acl](http://docs.google.com/java/security/acl/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AclNotFoundException**](http://docs.google.com/java/security/acl/AclNotFoundException.html)            This is an exception that is thrown whenever a reference is made to a non-existent ACL (Access Control List). |
| class | [**LastOwnerException**](http://docs.google.com/java/security/acl/LastOwnerException.html)            This is an exception that is thrown whenever an attempt is made to delete the last owner of an Access Control List. |
| class | [**NotOwnerException**](http://docs.google.com/java/security/acl/NotOwnerException.html)            This is an exception that is thrown whenever the modification of an object (such as an Access Control List) is only allowed to be done by an owner of the object, but the Principal attempting the modification is not an owner. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.security.cert](http://docs.google.com/java/security/cert/package-summary.html) | |
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| Classes in [java.security.cert](http://docs.google.com/java/security/cert/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**Certificate**](http://docs.google.com/java/security/cert/Certificate.html)            Abstract class for managing a variety of identity certificates. |
| protected static class | [**Certificate.CertificateRep**](http://docs.google.com/java/security/cert/Certificate.CertificateRep.html)            Alternate Certificate class for serialization. |
| class | [**CertificateEncodingException**](http://docs.google.com/java/security/cert/CertificateEncodingException.html)            Certificate Encoding Exception. |
| class | [**CertificateException**](http://docs.google.com/java/security/cert/CertificateException.html)            This exception indicates one of a variety of certificate problems. |
| class | [**CertificateExpiredException**](http://docs.google.com/java/security/cert/CertificateExpiredException.html)            Certificate Expired Exception. |
| class | [**CertificateNotYetValidException**](http://docs.google.com/java/security/cert/CertificateNotYetValidException.html)            Certificate is not yet valid exception. |
| class | [**CertificateParsingException**](http://docs.google.com/java/security/cert/CertificateParsingException.html)            Certificate Parsing Exception. |
| class | [**CertPath**](http://docs.google.com/java/security/cert/CertPath.html)            An immutable sequence of certificates (a certification path). |
| protected static class | [**CertPath.CertPathRep**](http://docs.google.com/java/security/cert/CertPath.CertPathRep.html)            Alternate CertPath class for serialization. |
| class | [**CertPathBuilderException**](http://docs.google.com/java/security/cert/CertPathBuilderException.html)            An exception indicating one of a variety of problems encountered when building a certification path with a CertPathBuilder. |
| class | [**CertPathValidatorException**](http://docs.google.com/java/security/cert/CertPathValidatorException.html)            An exception indicating one of a variety of problems encountered when validating a certification path. |
| class | [**CertStoreException**](http://docs.google.com/java/security/cert/CertStoreException.html)            An exception indicating one of a variety of problems retrieving certificates and CRLs from a CertStore. |
| class | [**CRLException**](http://docs.google.com/java/security/cert/CRLException.html)            CRL (Certificate Revocation List) Exception. |
| class | [**X509Certificate**](http://docs.google.com/java/security/cert/X509Certificate.html)             Abstract class for X.509 certificates. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.security.interfaces](http://docs.google.com/java/security/interfaces/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.security.interfaces](http://docs.google.com/java/security/interfaces/package-summary.html) | |
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| interface | [**DSAPrivateKey**](http://docs.google.com/java/security/interfaces/DSAPrivateKey.html)            The standard interface to a DSA private key. |
| interface | [**DSAPublicKey**](http://docs.google.com/java/security/interfaces/DSAPublicKey.html)            The interface to a DSA public key. |
| interface | [**ECPrivateKey**](http://docs.google.com/java/security/interfaces/ECPrivateKey.html)            The interface to an elliptic curve (EC) private key. |
| interface | [**ECPublicKey**](http://docs.google.com/java/security/interfaces/ECPublicKey.html)            The interface to an elliptic curve (EC) public key. |
| interface | [**RSAMultiPrimePrivateCrtKey**](http://docs.google.com/java/security/interfaces/RSAMultiPrimePrivateCrtKey.html)            The interface to an RSA multi-prime private key, as defined in the PKCS#1 v2.1, using the *Chinese Remainder Theorem* (CRT) information values. |
| interface | [**RSAPrivateCrtKey**](http://docs.google.com/java/security/interfaces/RSAPrivateCrtKey.html)            The interface to an RSA private key, as defined in the PKCS#1 standard, using the *Chinese Remainder Theorem* (CRT) information values. |
| interface | [**RSAPrivateKey**](http://docs.google.com/java/security/interfaces/RSAPrivateKey.html)            The interface to an RSA private key. |
| interface | [**RSAPublicKey**](http://docs.google.com/java/security/interfaces/RSAPublicKey.html)            The interface to an RSA public key. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.security.spec](http://docs.google.com/java/security/spec/package-summary.html) | |
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| Classes in [java.security.spec](http://docs.google.com/java/security/spec/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**InvalidKeySpecException**](http://docs.google.com/java/security/spec/InvalidKeySpecException.html)            This is the exception for invalid key specifications. |
| class | [**InvalidParameterSpecException**](http://docs.google.com/java/security/spec/InvalidParameterSpecException.html)            This is the exception for invalid parameter specifications. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.sql](http://docs.google.com/java/sql/package-summary.html) | |
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| Classes in [java.sql](http://docs.google.com/java/sql/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**BatchUpdateException**](http://docs.google.com/java/sql/BatchUpdateException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown when an error occurs during a batch update operation. |
| class | [**ClientInfoStatus**](http://docs.google.com/java/sql/ClientInfoStatus.html)            Enumeration for status of the reason that a property could not be set via a call to Connection.setClientInfo |
| class | [**DataTruncation**](http://docs.google.com/java/sql/DataTruncation.html)            An exception thrown as a DataTruncation exception (on writes) or reported as a DataTruncation warning (on reads) when a data values is unexpectedly truncated for reasons other than its having execeeded MaxFieldSize. |
| class | [**RowIdLifetime**](http://docs.google.com/java/sql/RowIdLifetime.html)            Enumeration for RowId life-time values. |
| class | [**SQLClientInfoException**](http://docs.google.com/java/sql/SQLClientInfoException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) is thrown when one or more client info properties could not be set on a Connection. |
| class | [**SQLDataException**](http://docs.google.com/java/sql/SQLDataException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown when the SQLState class value is '*22*'. |
| class | [**SQLException**](http://docs.google.com/java/sql/SQLException.html)            An exception that provides information on a database access error or other errors. |
| class | [**SQLFeatureNotSupportedException**](http://docs.google.com/java/sql/SQLFeatureNotSupportedException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown when the SQLState class value is '*0A*' ( the value is 'zero' A). |
| class | [**SQLIntegrityConstraintViolationException**](http://docs.google.com/java/sql/SQLIntegrityConstraintViolationException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown when the SQLState class value is '*23*'. |
| class | [**SQLInvalidAuthorizationSpecException**](http://docs.google.com/java/sql/SQLInvalidAuthorizationSpecException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown when the SQLState class value is '*28*'. |
| class | [**SQLNonTransientConnectionException**](http://docs.google.com/java/sql/SQLNonTransientConnectionException.html)             The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown for the SQLState class value '*08*', representing that the connection operation that failed will not succeed when the operation is retried without the cause of the failure being corrected. |
| class | [**SQLNonTransientException**](http://docs.google.com/java/sql/SQLNonTransientException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown when an instance where a retry of the same operation would fail unless the cause of the SQLException is corrected. |
| class | [**SQLPermission**](http://docs.google.com/java/sql/SQLPermission.html)            The permission for which the SecurityManager will check when code that is running in an applet calls the DriverManager.setLogWriter method or the DriverManager.setLogStream (deprecated) method. |
| class | [**SQLRecoverableException**](http://docs.google.com/java/sql/SQLRecoverableException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown in situations where a previously failed operation might be able to succeed if the application performs some recovery steps and retries the entire transaction or in the case of a distributed transaction, the transaction branch. |
| class | [**SQLSyntaxErrorException**](http://docs.google.com/java/sql/SQLSyntaxErrorException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown when the SQLState class value is '*42*'. |
| class | [**SQLTimeoutException**](http://docs.google.com/java/sql/SQLTimeoutException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown when the timeout specified by Statement has expired. |
| class | [**SQLTransactionRollbackException**](http://docs.google.com/java/sql/SQLTransactionRollbackException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) thrown when the SQLState class value is '*40*'. |
| class | [**SQLTransientConnectionException**](http://docs.google.com/java/sql/SQLTransientConnectionException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) for the SQLState class value '*08*', representing that the connection operation that failed might be able to succeed when the operation is retried without any application-level changes. |
| class | [**SQLTransientException**](http://docs.google.com/java/sql/SQLTransientException.html)            The subclass of [SQLException](http://docs.google.com/java/sql/SQLException.html) is thrown in situations where a previoulsy failed operation might be able to succeed when the operation is retried without any intervention by application-level functionality. |
| class | [**SQLWarning**](http://docs.google.com/java/sql/SQLWarning.html)            An exception that provides information on database access warnings. |
| class | [**Time**](http://docs.google.com/java/sql/Time.html)            A thin wrapper around the java.util.Date class that allows the JDBC API to identify this as an SQL TIME value. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.text](http://docs.google.com/java/text/package-summary.html) | |
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| Classes in [java.text](http://docs.google.com/java/text/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| static class | [**AttributedCharacterIterator.Attribute**](http://docs.google.com/java/text/AttributedCharacterIterator.Attribute.html)            Defines attribute keys that are used to identify text attributes. |
| class | [**ChoiceFormat**](http://docs.google.com/java/text/ChoiceFormat.html)            A ChoiceFormat allows you to attach a format to a range of numbers. |
| class | [**DateFormat**](http://docs.google.com/java/text/DateFormat.html)            DateFormat is an abstract class for date/time formatting subclasses which formats and parses dates or time in a language-independent manner. |
| static class | [**DateFormat.Field**](http://docs.google.com/java/text/DateFormat.Field.html)            Defines constants that are used as attribute keys in the AttributedCharacterIterator returned from DateFormat.formatToCharacterIterator and as field identifiers in FieldPosition. |
| class | [**DateFormatSymbols**](http://docs.google.com/java/text/DateFormatSymbols.html)            DateFormatSymbols is a public class for encapsulating localizable date-time formatting data, such as the names of the months, the names of the days of the week, and the time zone data. |
| class | [**DecimalFormat**](http://docs.google.com/java/text/DecimalFormat.html)            DecimalFormat is a concrete subclass of NumberFormat that formats decimal numbers. |
| class | [**DecimalFormatSymbols**](http://docs.google.com/java/text/DecimalFormatSymbols.html)            This class represents the set of symbols (such as the decimal separator, the grouping separator, and so on) needed by DecimalFormat to format numbers. |
| class | [**Format**](http://docs.google.com/java/text/Format.html)            Format is an abstract base class for formatting locale-sensitive information such as dates, messages, and numbers. |
| static class | [**Format.Field**](http://docs.google.com/java/text/Format.Field.html)            Defines constants that are used as attribute keys in the AttributedCharacterIterator returned from Format.formatToCharacterIterator and as field identifiers in FieldPosition. |
| class | [**MessageFormat**](http://docs.google.com/java/text/MessageFormat.html)            MessageFormat provides a means to produce concatenated messages in a language-neutral way. |
| static class | [**MessageFormat.Field**](http://docs.google.com/java/text/MessageFormat.Field.html)            Defines constants that are used as attribute keys in the AttributedCharacterIterator returned from MessageFormat.formatToCharacterIterator. |
| static class | [**Normalizer.Form**](http://docs.google.com/java/text/Normalizer.Form.html)            This enum provides constants of the four Unicode normalization forms that are described in  [Unicode Standard Annex #15 — Unicode Normalization Forms](http://www.unicode.org/unicode/reports/tr15/tr15-23.html) and two methods to access them. |
| class | [**NumberFormat**](http://docs.google.com/java/text/NumberFormat.html)            NumberFormat is the abstract base class for all number formats. |
| static class | [**NumberFormat.Field**](http://docs.google.com/java/text/NumberFormat.Field.html)            Defines constants that are used as attribute keys in the AttributedCharacterIterator returned from NumberFormat.formatToCharacterIterator and as field identifiers in FieldPosition. |
| class | [**ParseException**](http://docs.google.com/java/text/ParseException.html)            Signals that an error has been reached unexpectedly while parsing. |
| class | [**SimpleDateFormat**](http://docs.google.com/java/text/SimpleDateFormat.html)            SimpleDateFormat is a concrete class for formatting and parsing dates in a locale-sensitive manner. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.util](http://docs.google.com/java/util/package-summary.html) | |
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| Classes in [java.util](http://docs.google.com/java/util/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| static class | [**AbstractMap.SimpleEntry<K,V>**](http://docs.google.com/java/util/AbstractMap.SimpleEntry.html)            An Entry maintaining a key and a value. |
| static class | [**AbstractMap.SimpleImmutableEntry<K,V>**](http://docs.google.com/java/util/AbstractMap.SimpleImmutableEntry.html)            An Entry maintaining an immutable key and value. |
| class | [**ArrayDeque<E>**](http://docs.google.com/java/util/ArrayDeque.html)            Resizable-array implementation of the [Deque](http://docs.google.com/java/util/Deque.html) interface. |
| class | [**ArrayList<E>**](http://docs.google.com/java/util/ArrayList.html)            Resizable-array implementation of the List interface. |
| class | [**BitSet**](http://docs.google.com/java/util/BitSet.html)            This class implements a vector of bits that grows as needed. |
| class | [**Calendar**](http://docs.google.com/java/util/Calendar.html)            The Calendar class is an abstract class that provides methods for converting between a specific instant in time and a set of [calendar fields](http://docs.google.com/java/util/Calendar.html#fields) such as YEAR, MONTH, DAY\_OF\_MONTH, HOUR, and so on, and for manipulating the calendar fields, such as getting the date of the next week. |
| class | [**ConcurrentModificationException**](http://docs.google.com/java/util/ConcurrentModificationException.html)            This exception may be thrown by methods that have detected concurrent modification of an object when such modification is not permissible. |
| class | [**Currency**](http://docs.google.com/java/util/Currency.html)            Represents a currency. |
| class | [**Date**](http://docs.google.com/java/util/Date.html)            The class Date represents a specific instant in time, with millisecond precision. |
| class | [**DuplicateFormatFlagsException**](http://docs.google.com/java/util/DuplicateFormatFlagsException.html)            Unchecked exception thrown when duplicate flags are provided in the format specifier. |
| class | [**EmptyStackException**](http://docs.google.com/java/util/EmptyStackException.html)            Thrown by methods in the Stack class to indicate that the stack is empty. |
| class | [**EnumMap<K extends Enum<K>,V>**](http://docs.google.com/java/util/EnumMap.html)            A specialized [Map](http://docs.google.com/java/util/Map.html) implementation for use with enum type keys. |
| class | [**EnumSet<E extends Enum<E>>**](http://docs.google.com/java/util/EnumSet.html)            A specialized [Set](http://docs.google.com/java/util/Set.html) implementation for use with enum types. |
| class | [**EventObject**](http://docs.google.com/java/util/EventObject.html)             The root class from which all event state objects shall be derived. |
| class | [**FormatFlagsConversionMismatchException**](http://docs.google.com/java/util/FormatFlagsConversionMismatchException.html)            Unchecked exception thrown when a conversion and flag are incompatible. |
| static class | [**Formatter.BigDecimalLayoutForm**](http://docs.google.com/java/util/Formatter.BigDecimalLayoutForm.html) |
| class | [**FormatterClosedException**](http://docs.google.com/java/util/FormatterClosedException.html)            Unchecked exception thrown when the formatter has been closed. |
| class | [**GregorianCalendar**](http://docs.google.com/java/util/GregorianCalendar.html)            GregorianCalendar is a concrete subclass of Calendar and provides the standard calendar system used by most of the world. |
| class | [**HashMap<K,V>**](http://docs.google.com/java/util/HashMap.html)            Hash table based implementation of the Map interface. |
| class | [**HashSet<E>**](http://docs.google.com/java/util/HashSet.html)            This class implements the Set interface, backed by a hash table (actually a HashMap instance). |
| class | [**Hashtable<K,V>**](http://docs.google.com/java/util/Hashtable.html)            This class implements a hashtable, which maps keys to values. |
| class | [**IdentityHashMap<K,V>**](http://docs.google.com/java/util/IdentityHashMap.html)            This class implements the Map interface with a hash table, using reference-equality in place of object-equality when comparing keys (and values). |
| class | [**IllegalFormatCodePointException**](http://docs.google.com/java/util/IllegalFormatCodePointException.html)            Unchecked exception thrown when a character with an invalid Unicode code point as defined by [Character.isValidCodePoint(int)](http://docs.google.com/java/lang/Character.html#isValidCodePoint(int)) is passed to the [Formatter](http://docs.google.com/java/util/Formatter.html). |
| class | [**IllegalFormatConversionException**](http://docs.google.com/java/util/IllegalFormatConversionException.html)            Unchecked exception thrown when the argument corresponding to the format specifier is of an incompatible type. |
| class | [**IllegalFormatException**](http://docs.google.com/java/util/IllegalFormatException.html)            Unchecked exception thrown when a format string contains an illegal syntax or a format specifier that is incompatible with the given arguments. |
| class | [**IllegalFormatFlagsException**](http://docs.google.com/java/util/IllegalFormatFlagsException.html)            Unchecked exception thrown when an illegal combination flags is given. |
| class | [**IllegalFormatPrecisionException**](http://docs.google.com/java/util/IllegalFormatPrecisionException.html)            Unchecked exception thrown when the precision is a negative value other than -1, the conversion does not support a precision, or the value is otherwise unsupported. |
| class | [**IllegalFormatWidthException**](http://docs.google.com/java/util/IllegalFormatWidthException.html)            Unchecked exception thrown when the format width is a negative value other than -1 or is otherwise unsupported. |
| class | [**InputMismatchException**](http://docs.google.com/java/util/InputMismatchException.html)            Thrown by a Scanner to indicate that the token retrieved does not match the pattern for the expected type, or that the token is out of range for the expected type. |
| class | [**InvalidPropertiesFormatException**](http://docs.google.com/java/util/InvalidPropertiesFormatException.html)            Thrown to indicate that an operation could not complete because the input did not conform to the appropriate XML document type for a collection of properties, as per the [Properties](http://docs.google.com/java/util/Properties.html) specification. |
| class | [**LinkedHashMap<K,V>**](http://docs.google.com/java/util/LinkedHashMap.html)            Hash table and linked list implementation of the Map interface, with predictable iteration order. |
| class | [**LinkedHashSet<E>**](http://docs.google.com/java/util/LinkedHashSet.html)            Hash table and linked list implementation of the Set interface, with predictable iteration order. |
| class | [**LinkedList<E>**](http://docs.google.com/java/util/LinkedList.html)            Linked list implementation of the List interface. |
| class | [**Locale**](http://docs.google.com/java/util/Locale.html)            A Locale object represents a specific geographical, political, or cultural region. |
| class | [**MissingFormatArgumentException**](http://docs.google.com/java/util/MissingFormatArgumentException.html)            Unchecked exception thrown when there is a format specifier which does not have a corresponding argument or if an argument index refers to an argument that does not exist. |
| class | [**MissingFormatWidthException**](http://docs.google.com/java/util/MissingFormatWidthException.html)            Unchecked exception thrown when the format width is required. |
| class | [**MissingResourceException**](http://docs.google.com/java/util/MissingResourceException.html)            Signals that a resource is missing. |
| class | [**NoSuchElementException**](http://docs.google.com/java/util/NoSuchElementException.html)            Thrown by the nextElement method of an Enumeration to indicate that there are no more elements in the enumeration. |
| class | [**PriorityQueue<E>**](http://docs.google.com/java/util/PriorityQueue.html)            An unbounded priority [queue](http://docs.google.com/java/util/Queue.html) based on a priority heap. |
| class | [**Properties**](http://docs.google.com/java/util/Properties.html)            The Properties class represents a persistent set of properties. |
| class | [**PropertyPermission**](http://docs.google.com/java/util/PropertyPermission.html)            This class is for property permissions. |
| class | [**Random**](http://docs.google.com/java/util/Random.html)            An instance of this class is used to generate a stream of pseudorandom numbers. |
| class | [**ServiceConfigurationError**](http://docs.google.com/java/util/ServiceConfigurationError.html)            Error thrown when something goes wrong while loading a service provider. |
| class | [**SimpleTimeZone**](http://docs.google.com/java/util/SimpleTimeZone.html)            SimpleTimeZone is a concrete subclass of TimeZone that represents a time zone for use with a Gregorian calendar. |
| class | [**Stack<E>**](http://docs.google.com/java/util/Stack.html)            The Stack class represents a last-in-first-out (LIFO) stack of objects. |
| class | [**TimeZone**](http://docs.google.com/java/util/TimeZone.html)            TimeZone represents a time zone offset, and also figures out daylight savings. |
| class | [**TooManyListenersException**](http://docs.google.com/java/util/TooManyListenersException.html)             The TooManyListenersException Exception is used as part of the Java Event model to annotate and implement a unicast special case of a multicast Event Source. |
| class | [**TreeMap<K,V>**](http://docs.google.com/java/util/TreeMap.html)            A Red-Black tree based [NavigableMap](http://docs.google.com/java/util/NavigableMap.html) implementation. |
| class | [**TreeSet<E>**](http://docs.google.com/java/util/TreeSet.html)            A [NavigableSet](http://docs.google.com/java/util/NavigableSet.html) implementation based on a [TreeMap](http://docs.google.com/java/util/TreeMap.html). |
| class | [**UnknownFormatConversionException**](http://docs.google.com/java/util/UnknownFormatConversionException.html)            Unchecked exception thrown when an unknown conversion is given. |
| class | [**UnknownFormatFlagsException**](http://docs.google.com/java/util/UnknownFormatFlagsException.html)            Unchecked exception thrown when an unknown flag is given. |
| class | [**UUID**](http://docs.google.com/java/util/UUID.html)            A class that represents an immutable universally unique identifier (UUID). |
| class | [**Vector<E>**](http://docs.google.com/java/util/Vector.html)            The Vector class implements a growable array of objects. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.util.concurrent](http://docs.google.com/java/util/concurrent/package-summary.html) | |
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| Classes in [java.util.concurrent](http://docs.google.com/java/util/concurrent/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**ArrayBlockingQueue<E>**](http://docs.google.com/java/util/concurrent/ArrayBlockingQueue.html)            A bounded [blocking queue](http://docs.google.com/java/util/concurrent/BlockingQueue.html) backed by an array. |
| class | [**BrokenBarrierException**](http://docs.google.com/java/util/concurrent/BrokenBarrierException.html)            Exception thrown when a thread tries to wait upon a barrier that is in a broken state, or which enters the broken state while the thread is waiting. |
| class | [**CancellationException**](http://docs.google.com/java/util/concurrent/CancellationException.html)            Exception indicating that the result of a value-producing task, such as a [FutureTask](http://docs.google.com/java/util/concurrent/FutureTask.html), cannot be retrieved because the task was cancelled. |
| class | [**ConcurrentHashMap<K,V>**](http://docs.google.com/java/util/concurrent/ConcurrentHashMap.html)            A hash table supporting full concurrency of retrievals and adjustable expected concurrency for updates. |
| class | [**ConcurrentLinkedQueue<E>**](http://docs.google.com/java/util/concurrent/ConcurrentLinkedQueue.html)            An unbounded thread-safe [queue](http://docs.google.com/java/util/Queue.html) based on linked nodes. |
| class | [**ConcurrentSkipListMap<K,V>**](http://docs.google.com/java/util/concurrent/ConcurrentSkipListMap.html)            A scalable concurrent [ConcurrentNavigableMap](http://docs.google.com/java/util/concurrent/ConcurrentNavigableMap.html) implementation. |
| class | [**ConcurrentSkipListSet<E>**](http://docs.google.com/java/util/concurrent/ConcurrentSkipListSet.html)            A scalable concurrent [NavigableSet](http://docs.google.com/java/util/NavigableSet.html) implementation based on a [ConcurrentSkipListMap](http://docs.google.com/java/util/concurrent/ConcurrentSkipListMap.html). |
| class | [**CopyOnWriteArrayList<E>**](http://docs.google.com/java/util/concurrent/CopyOnWriteArrayList.html)            A thread-safe variant of [ArrayList](http://docs.google.com/java/util/ArrayList.html) in which all mutative operations (add, set, and so on) are implemented by making a fresh copy of the underlying array. |
| class | [**CopyOnWriteArraySet<E>**](http://docs.google.com/java/util/concurrent/CopyOnWriteArraySet.html)            A [Set](http://docs.google.com/java/util/Set.html) that uses an internal [CopyOnWriteArrayList](http://docs.google.com/java/util/concurrent/CopyOnWriteArrayList.html) for all of its operations. |
| class | [**ExecutionException**](http://docs.google.com/java/util/concurrent/ExecutionException.html)            Exception thrown when attempting to retrieve the result of a task that aborted by throwing an exception. |
| class | [**LinkedBlockingDeque<E>**](http://docs.google.com/java/util/concurrent/LinkedBlockingDeque.html)            An optionally-bounded [blocking deque](http://docs.google.com/java/util/concurrent/BlockingDeque.html) based on linked nodes. |
| class | [**LinkedBlockingQueue<E>**](http://docs.google.com/java/util/concurrent/LinkedBlockingQueue.html)            An optionally-bounded [blocking queue](http://docs.google.com/java/util/concurrent/BlockingQueue.html) based on linked nodes. |
| class | [**PriorityBlockingQueue<E>**](http://docs.google.com/java/util/concurrent/PriorityBlockingQueue.html)            An unbounded [blocking queue](http://docs.google.com/java/util/concurrent/BlockingQueue.html) that uses the same ordering rules as class [PriorityQueue](http://docs.google.com/java/util/PriorityQueue.html) and supplies blocking retrieval operations. |
| class | [**RejectedExecutionException**](http://docs.google.com/java/util/concurrent/RejectedExecutionException.html)            Exception thrown by an [Executor](http://docs.google.com/java/util/concurrent/Executor.html) when a task cannot be accepted for execution. |
| class | [**Semaphore**](http://docs.google.com/java/util/concurrent/Semaphore.html)            A counting semaphore. |
| class | [**SynchronousQueue<E>**](http://docs.google.com/java/util/concurrent/SynchronousQueue.html)            A [blocking queue](http://docs.google.com/java/util/concurrent/BlockingQueue.html) in which each insert operation must wait for a corresponding remove operation by another thread, and vice versa. |
| class | [**TimeoutException**](http://docs.google.com/java/util/concurrent/TimeoutException.html)            Exception thrown when a blocking operation times out. |
| class | [**TimeUnit**](http://docs.google.com/java/util/concurrent/TimeUnit.html)            A TimeUnit 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. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.util.concurrent.atomic](http://docs.google.com/java/util/concurrent/atomic/package-summary.html) | |
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| Classes in [java.util.concurrent.atomic](http://docs.google.com/java/util/concurrent/atomic/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AtomicBoolean**](http://docs.google.com/java/util/concurrent/atomic/AtomicBoolean.html)            A boolean value that may be updated atomically. |
| class | [**AtomicInteger**](http://docs.google.com/java/util/concurrent/atomic/AtomicInteger.html)            An int value that may be updated atomically. |
| class | [**AtomicIntegerArray**](http://docs.google.com/java/util/concurrent/atomic/AtomicIntegerArray.html)            An int array in which elements may be updated atomically. |
| class | [**AtomicLong**](http://docs.google.com/java/util/concurrent/atomic/AtomicLong.html)            A long value that may be updated atomically. |
| class | [**AtomicLongArray**](http://docs.google.com/java/util/concurrent/atomic/AtomicLongArray.html)            A long array in which elements may be updated atomically. |
| class | [**AtomicReference<V>**](http://docs.google.com/java/util/concurrent/atomic/AtomicReference.html)            An object reference that may be updated atomically. |
| class | [**AtomicReferenceArray<E>**](http://docs.google.com/java/util/concurrent/atomic/AtomicReferenceArray.html)            An array of object references in which elements may be updated atomically. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.util.concurrent.locks](http://docs.google.com/java/util/concurrent/locks/package-summary.html) | |
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| Classes in [java.util.concurrent.locks](http://docs.google.com/java/util/concurrent/locks/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AbstractOwnableSynchronizer**](http://docs.google.com/java/util/concurrent/locks/AbstractOwnableSynchronizer.html)            A synchronizer that may be exclusively owned by a thread. |
| class | [**AbstractQueuedLongSynchronizer**](http://docs.google.com/java/util/concurrent/locks/AbstractQueuedLongSynchronizer.html)            A version of [AbstractQueuedSynchronizer](http://docs.google.com/java/util/concurrent/locks/AbstractQueuedSynchronizer.html) in which synchronization state is maintained as a long. |
| class | [**AbstractQueuedLongSynchronizer.ConditionObject**](http://docs.google.com/java/util/concurrent/locks/AbstractQueuedLongSynchronizer.ConditionObject.html)            Condition implementation for a [AbstractQueuedLongSynchronizer](http://docs.google.com/java/util/concurrent/locks/AbstractQueuedLongSynchronizer.html) serving as the basis of a [Lock](http://docs.google.com/java/util/concurrent/locks/Lock.html) implementation. |
| class | [**AbstractQueuedSynchronizer**](http://docs.google.com/java/util/concurrent/locks/AbstractQueuedSynchronizer.html)            Provides a framework for implementing blocking locks and related synchronizers (semaphores, events, etc) that rely on first-in-first-out (FIFO) wait queues. |
| class | [**AbstractQueuedSynchronizer.ConditionObject**](http://docs.google.com/java/util/concurrent/locks/AbstractQueuedSynchronizer.ConditionObject.html)            Condition implementation for a [AbstractQueuedSynchronizer](http://docs.google.com/java/util/concurrent/locks/AbstractQueuedSynchronizer.html) serving as the basis of a [Lock](http://docs.google.com/java/util/concurrent/locks/Lock.html) implementation. |
| class | [**ReentrantLock**](http://docs.google.com/java/util/concurrent/locks/ReentrantLock.html)            A reentrant mutual exclusion [Lock](http://docs.google.com/java/util/concurrent/locks/Lock.html) with the same basic behavior and semantics as the implicit monitor lock accessed using synchronized methods and statements, but with extended capabilities. |
| class | [**ReentrantReadWriteLock**](http://docs.google.com/java/util/concurrent/locks/ReentrantReadWriteLock.html)            An implementation of [ReadWriteLock](http://docs.google.com/java/util/concurrent/locks/ReadWriteLock.html) supporting similar semantics to [ReentrantLock](http://docs.google.com/java/util/concurrent/locks/ReentrantLock.html). |
| static class | [**ReentrantReadWriteLock.ReadLock**](http://docs.google.com/java/util/concurrent/locks/ReentrantReadWriteLock.ReadLock.html)            The lock returned by method [ReentrantReadWriteLock.readLock()](http://docs.google.com/java/util/concurrent/locks/ReentrantReadWriteLock.html#readLock()). |
| static class | [**ReentrantReadWriteLock.WriteLock**](http://docs.google.com/java/util/concurrent/locks/ReentrantReadWriteLock.WriteLock.html)            The lock returned by method [ReentrantReadWriteLock.writeLock()](http://docs.google.com/java/util/concurrent/locks/ReentrantReadWriteLock.html#writeLock()). |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.util.jar](http://docs.google.com/java/util/jar/package-summary.html) | |
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| Classes in [java.util.jar](http://docs.google.com/java/util/jar/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**JarException**](http://docs.google.com/java/util/jar/JarException.html)            Signals that an error of some sort has occurred while reading from or writing to a JAR file. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.util.logging](http://docs.google.com/java/util/logging/package-summary.html) | |
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| Classes in [java.util.logging](http://docs.google.com/java/util/logging/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**Level**](http://docs.google.com/java/util/logging/Level.html)            The Level class defines a set of standard logging levels that can be used to control logging output. |
| class | [**LoggingPermission**](http://docs.google.com/java/util/logging/LoggingPermission.html)            The permission which the SecurityManager will check when code that is running with a SecurityManager calls one of the logging control methods (such as Logger.setLevel). |
| class | [**LogRecord**](http://docs.google.com/java/util/logging/LogRecord.html)            LogRecord objects are used to pass logging requests between the logging framework and individual log Handlers. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.util.prefs](http://docs.google.com/java/util/prefs/package-summary.html) | |
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| Classes in [java.util.prefs](http://docs.google.com/java/util/prefs/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**BackingStoreException**](http://docs.google.com/java/util/prefs/BackingStoreException.html)            Thrown to indicate that a preferences operation could not complete because of a failure in the backing store, or a failure to contact the backing store. |
| class | [**InvalidPreferencesFormatException**](http://docs.google.com/java/util/prefs/InvalidPreferencesFormatException.html)            Thrown to indicate that an operation could not complete because the input did not conform to the appropriate XML document type for a collection of preferences, as per the [Preferences](http://docs.google.com/java/util/prefs/Preferences.html) specification. |
| class | [**NodeChangeEvent**](http://docs.google.com/java/util/prefs/NodeChangeEvent.html)            An event emitted by a Preferences node to indicate that a child of that node has been added or removed. |
| class | [**PreferenceChangeEvent**](http://docs.google.com/java/util/prefs/PreferenceChangeEvent.html)            An event emitted by a Preferences node to indicate that a preference has been added, removed or has had its value changed. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.util.regex](http://docs.google.com/java/util/regex/package-summary.html) | |
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| Classes in [java.util.regex](http://docs.google.com/java/util/regex/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**Pattern**](http://docs.google.com/java/util/regex/Pattern.html)            A compiled representation of a regular expression. |
| class | [**PatternSyntaxException**](http://docs.google.com/java/util/regex/PatternSyntaxException.html)            Unchecked exception thrown to indicate a syntax error in a regular-expression pattern. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [java.util.zip](http://docs.google.com/java/util/zip/package-summary.html) | |
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| Classes in [java.util.zip](http://docs.google.com/java/util/zip/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**DataFormatException**](http://docs.google.com/java/util/zip/DataFormatException.html)            Signals that a data format error has occurred. |
| class | [**ZipError**](http://docs.google.com/java/util/zip/ZipError.html)            Signals that an unrecoverable error has occurred. |
| class | [**ZipException**](http://docs.google.com/java/util/zip/ZipException.html)            Signals that a Zip exception of some sort has occurred. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.activation](http://docs.google.com/javax/activation/package-summary.html) | |
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| Classes in [javax.activation](http://docs.google.com/javax/activation/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**ActivationDataFlavor**](http://docs.google.com/javax/activation/ActivationDataFlavor.html)            The ActivationDataFlavor class is a special subclass of java.awt.datatransfer.DataFlavor. |
| class | [**MimeType**](http://docs.google.com/javax/activation/MimeType.html)            A Multipurpose Internet Mail Extension (MIME) type, as defined in RFC 2045 and 2046. |
| class | [**UnsupportedDataTypeException**](http://docs.google.com/javax/activation/UnsupportedDataTypeException.html)            Signals that the requested operation does not support the requested data type. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.activity](http://docs.google.com/javax/activity/package-summary.html) | |
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| Classes in [javax.activity](http://docs.google.com/javax/activity/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**ActivityCompletedException**](http://docs.google.com/javax/activity/ActivityCompletedException.html)            This exception may be thrown on any method for which Activity context is accessed and indicates that ongoing work within the Activity is not possible. |
| class | [**ActivityRequiredException**](http://docs.google.com/javax/activity/ActivityRequiredException.html)            This exception is thrown by a container if Activity context is not received on a method for which Activity context is mandatory. |
| class | [**InvalidActivityException**](http://docs.google.com/javax/activity/InvalidActivityException.html)            This exception may be thrown on any method for which Activity context is accessed and indicates that the attempted invocation or the Activity context associated with the attempted invocation is incompatible with the Activity's current state. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.annotation](http://docs.google.com/javax/annotation/package-summary.html) | |
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| Classes in [javax.annotation](http://docs.google.com/javax/annotation/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| static class | [**Resource.AuthenticationType**](http://docs.google.com/javax/annotation/Resource.AuthenticationType.html)            The two possible authentication types for a resource. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.annotation.processing](http://docs.google.com/javax/annotation/processing/package-summary.html) | |
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| Classes in [javax.annotation.processing](http://docs.google.com/javax/annotation/processing/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**FilerException**](http://docs.google.com/javax/annotation/processing/FilerException.html)            Indicates a [Filer](http://docs.google.com/javax/annotation/processing/Filer.html) detected an attempt to open a file that would violate the guarantees provided by the Filer. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.crypto](http://docs.google.com/javax/crypto/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.crypto](http://docs.google.com/javax/crypto/package-summary.html) | |
| --- | --- |
| interface | [**SecretKey**](http://docs.google.com/javax/crypto/SecretKey.html)            A secret (symmetric) key. |

| Classes in [javax.crypto](http://docs.google.com/javax/crypto/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**BadPaddingException**](http://docs.google.com/javax/crypto/BadPaddingException.html)            This exception is thrown when a particular padding mechanism is expected for the input data but the data is not padded properly. |
| class | [**ExemptionMechanismException**](http://docs.google.com/javax/crypto/ExemptionMechanismException.html)            This is the generic ExemptionMechanism exception. |
| class | [**IllegalBlockSizeException**](http://docs.google.com/javax/crypto/IllegalBlockSizeException.html)            This exception is thrown when the length of data provided to a block cipher is incorrect, i.e., does not match the block size of the cipher. |
| class | [**NoSuchPaddingException**](http://docs.google.com/javax/crypto/NoSuchPaddingException.html)            This exception is thrown when a particular padding mechanism is requested but is not available in the environment. |
| class | [**SealedObject**](http://docs.google.com/javax/crypto/SealedObject.html)            This class enables a programmer to create an object and protect its confidentiality with a cryptographic algorithm. |
| class | [**ShortBufferException**](http://docs.google.com/javax/crypto/ShortBufferException.html)            This exception is thrown when an output buffer provided by the user is too short to hold the operation result. |

| Constructors in [javax.crypto](http://docs.google.com/javax/crypto/package-summary.html) with parameters of type [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [**SealedObject**](http://docs.google.com/javax/crypto/SealedObject.html#SealedObject(java.io.Serializable,%20javax.crypto.Cipher))([Serializable](http://docs.google.com/java/io/Serializable.html) object, [Cipher](http://docs.google.com/javax/crypto/Cipher.html) c)            Constructs a SealedObject from any Serializable object. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.crypto.interfaces](http://docs.google.com/javax/crypto/interfaces/package-summary.html) | |
| --- | --- |

| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.crypto.interfaces](http://docs.google.com/javax/crypto/interfaces/package-summary.html) | |
| --- | --- |
| interface | [**DHPrivateKey**](http://docs.google.com/javax/crypto/interfaces/DHPrivateKey.html)            The interface to a Diffie-Hellman private key. |
| interface | [**DHPublicKey**](http://docs.google.com/javax/crypto/interfaces/DHPublicKey.html)            The interface to a Diffie-Hellman public key. |
| interface | [**PBEKey**](http://docs.google.com/javax/crypto/interfaces/PBEKey.html)            The interface to a PBE key. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.crypto.spec](http://docs.google.com/javax/crypto/spec/package-summary.html) | |
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| Classes in [javax.crypto.spec](http://docs.google.com/javax/crypto/spec/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**SecretKeySpec**](http://docs.google.com/javax/crypto/spec/SecretKeySpec.html)            This class specifies a secret key in a provider-independent fashion. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.imageio](http://docs.google.com/javax/imageio/package-summary.html) | |
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| Classes in [javax.imageio](http://docs.google.com/javax/imageio/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**IIOException**](http://docs.google.com/javax/imageio/IIOException.html)            An exception class used for signaling run-time failure of reading and writing operations. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.imageio.metadata](http://docs.google.com/javax/imageio/metadata/package-summary.html) | |
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| Classes in [javax.imageio.metadata](http://docs.google.com/javax/imageio/metadata/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**IIOInvalidTreeException**](http://docs.google.com/javax/imageio/metadata/IIOInvalidTreeException.html)            An IIOInvalidTreeException is thrown when an attempt by an IIOMetadata object to parse a tree of IIOMetadataNodes fails. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.jws](http://docs.google.com/javax/jws/package-summary.html) | |
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| Classes in [javax.jws](http://docs.google.com/javax/jws/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| static class | [**WebParam.Mode**](http://docs.google.com/javax/jws/WebParam.Mode.html)            The direction in which the parameter flows |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.jws.soap](http://docs.google.com/javax/jws/soap/package-summary.html) | |
| --- | --- |

| Classes in [javax.jws.soap](http://docs.google.com/javax/jws/soap/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| static class | [**SOAPBinding.ParameterStyle**](http://docs.google.com/javax/jws/soap/SOAPBinding.ParameterStyle.html)            The style of mapping parameters onto SOAP messages |
| static class | [**SOAPBinding.Style**](http://docs.google.com/javax/jws/soap/SOAPBinding.Style.html)            The SOAP binding style |
| static class | [**SOAPBinding.Use**](http://docs.google.com/javax/jws/soap/SOAPBinding.Use.html)            The SOAP binding use |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.lang.model](http://docs.google.com/javax/lang/model/package-summary.html) | |
| --- | --- |

| Classes in [javax.lang.model](http://docs.google.com/javax/lang/model/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**SourceVersion**](http://docs.google.com/javax/lang/model/SourceVersion.html)            Source versions of the Java™ programming language. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.lang.model.element](http://docs.google.com/javax/lang/model/element/package-summary.html) | |
| --- | --- |

| Classes in [javax.lang.model.element](http://docs.google.com/javax/lang/model/element/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**ElementKind**](http://docs.google.com/javax/lang/model/element/ElementKind.html)            The kind of an element. |
| class | [**Modifier**](http://docs.google.com/javax/lang/model/element/Modifier.html)            Represents a modifier on a program element such as a class, method, or field. |
| class | [**NestingKind**](http://docs.google.com/javax/lang/model/element/NestingKind.html)            The *nesting kind* of a type element. |
| class | [**UnknownAnnotationValueException**](http://docs.google.com/javax/lang/model/element/UnknownAnnotationValueException.html)            Indicates that an unknown kind of annotation value was encountered. |
| class | [**UnknownElementException**](http://docs.google.com/javax/lang/model/element/UnknownElementException.html)            Indicates that an unknown kind of element was encountered. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.lang.model.type](http://docs.google.com/javax/lang/model/type/package-summary.html) | |
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| Classes in [javax.lang.model.type](http://docs.google.com/javax/lang/model/type/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**MirroredTypeException**](http://docs.google.com/javax/lang/model/type/MirroredTypeException.html)            Thrown when an application attempts to access the [Class](http://docs.google.com/java/lang/Class.html) object corresponding to a [TypeMirror](http://docs.google.com/javax/lang/model/type/TypeMirror.html). |
| class | [**MirroredTypesException**](http://docs.google.com/javax/lang/model/type/MirroredTypesException.html)            Thrown when an application attempts to access a sequence of [Class](http://docs.google.com/java/lang/Class.html) objects each corresponding to a [TypeMirror](http://docs.google.com/javax/lang/model/type/TypeMirror.html). |
| class | [**TypeKind**](http://docs.google.com/javax/lang/model/type/TypeKind.html)            The kind of a type mirror. |
| class | [**UnknownTypeException**](http://docs.google.com/javax/lang/model/type/UnknownTypeException.html)            Indicates that an unknown kind of type was encountered. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management](http://docs.google.com/javax/management/package-summary.html) | |
| --- | --- |

| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management](http://docs.google.com/javax/management/package-summary.html) | |
| --- | --- |
| interface | [**Descriptor**](http://docs.google.com/javax/management/Descriptor.html)            Additional metadata for a JMX element. |
| interface | [**NotificationFilter**](http://docs.google.com/javax/management/NotificationFilter.html)            To be implemented by a any class acting as a notification filter. |
| interface | [**QueryExp**](http://docs.google.com/javax/management/QueryExp.html)            Represents relational constraints that can be used in database query "where clauses". |
| interface | [**ValueExp**](http://docs.google.com/javax/management/ValueExp.html)            Represents values that can be passed as arguments to relational expressions. |

| Classes in [javax.management](http://docs.google.com/javax/management/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**Attribute**](http://docs.google.com/javax/management/Attribute.html)            Represents an MBean attribute by associating its name with its value. |
| class | [**AttributeChangeNotification**](http://docs.google.com/javax/management/AttributeChangeNotification.html)            Provides definitions of the attribute change notifications sent by MBeans. |
| class | [**AttributeChangeNotificationFilter**](http://docs.google.com/javax/management/AttributeChangeNotificationFilter.html)            This class implements of the [NotificationFilter](http://docs.google.com/javax/management/NotificationFilter.html) interface for the [attribute change notification](http://docs.google.com/javax/management/AttributeChangeNotification.html). |
| class | [**AttributeList**](http://docs.google.com/javax/management/AttributeList.html)            Represents a list of values for attributes of an MBean. |
| class | [**AttributeNotFoundException**](http://docs.google.com/javax/management/AttributeNotFoundException.html)            The specified attribute does not exist or cannot be retrieved. |
| class | [**AttributeValueExp**](http://docs.google.com/javax/management/AttributeValueExp.html)            Represents attributes used as arguments to relational constraints. |
| class | [**BadAttributeValueExpException**](http://docs.google.com/javax/management/BadAttributeValueExpException.html)            Thrown when an invalid MBean attribute is passed to a query constructing method. |
| class | [**BadBinaryOpValueExpException**](http://docs.google.com/javax/management/BadBinaryOpValueExpException.html)            Thrown when an invalid expression is passed to a method for constructing a query. |
| class | [**BadStringOperationException**](http://docs.google.com/javax/management/BadStringOperationException.html)            Thrown when an invalid string operation is passed to a method for constructing a query. |
| class | [**ImmutableDescriptor**](http://docs.google.com/javax/management/ImmutableDescriptor.html)            An immutable descriptor. |
| class | [**InstanceAlreadyExistsException**](http://docs.google.com/javax/management/InstanceAlreadyExistsException.html)            The MBean is already registered in the repository. |
| class | [**InstanceNotFoundException**](http://docs.google.com/javax/management/InstanceNotFoundException.html)            The specified MBean does not exist in the repository. |
| class | [**InvalidApplicationException**](http://docs.google.com/javax/management/InvalidApplicationException.html)            Thrown when an attempt is made to apply either of the following: A subquery expression to an MBean or a qualified attribute expression to an MBean of the wrong class. |
| class | [**InvalidAttributeValueException**](http://docs.google.com/javax/management/InvalidAttributeValueException.html)            The value specified is not valid for the attribute. |
| class | [**JMException**](http://docs.google.com/javax/management/JMException.html)            Exceptions thrown by JMX implementations. |
| class | [**JMRuntimeException**](http://docs.google.com/javax/management/JMRuntimeException.html)            Runtime exceptions emitted by JMX implementations. |
| class | [**ListenerNotFoundException**](http://docs.google.com/javax/management/ListenerNotFoundException.html)            The specified MBean listener does not exist in the repository. |
| class | [**MalformedObjectNameException**](http://docs.google.com/javax/management/MalformedObjectNameException.html)            The format of the string does not correspond to a valid ObjectName. |
| class | [**MBeanAttributeInfo**](http://docs.google.com/javax/management/MBeanAttributeInfo.html)            Describes an MBean attribute exposed for management. |
| class | [**MBeanConstructorInfo**](http://docs.google.com/javax/management/MBeanConstructorInfo.html)            Describes a constructor exposed by an MBean. |
| class | [**MBeanException**](http://docs.google.com/javax/management/MBeanException.html)            Represents "user defined" exceptions thrown by MBean methods in the agent. |
| class | [**MBeanFeatureInfo**](http://docs.google.com/javax/management/MBeanFeatureInfo.html)            Provides general information for an MBean descriptor object. |
| class | [**MBeanInfo**](http://docs.google.com/javax/management/MBeanInfo.html)            Describes the management interface exposed by an MBean; that is, the set of attributes and operations which are available for management operations. |
| class | [**MBeanNotificationInfo**](http://docs.google.com/javax/management/MBeanNotificationInfo.html)            The MBeanNotificationInfo class is used to describe the characteristics of the different notification instances emitted by an MBean, for a given Java class of notification. |
| class | [**MBeanOperationInfo**](http://docs.google.com/javax/management/MBeanOperationInfo.html)            Describes a management operation exposed by an MBean. |
| class | [**MBeanParameterInfo**](http://docs.google.com/javax/management/MBeanParameterInfo.html)            Describes an argument of an operation exposed by an MBean. |
| class | [**MBeanPermission**](http://docs.google.com/javax/management/MBeanPermission.html)            Permission controlling access to MBeanServer operations. |
| class | [**MBeanRegistrationException**](http://docs.google.com/javax/management/MBeanRegistrationException.html)            Wraps exceptions thrown by the preRegister(), preDeregister() methods of the MBeanRegistration interface. |
| class | [**MBeanServerNotification**](http://docs.google.com/javax/management/MBeanServerNotification.html)            Represents a notification emitted by the MBean server through the MBeanServerDelegate MBean. |
| class | [**MBeanServerPermission**](http://docs.google.com/javax/management/MBeanServerPermission.html)            A Permission to perform actions related to MBeanServers. |
| class | [**MBeanTrustPermission**](http://docs.google.com/javax/management/MBeanTrustPermission.html)            This permission represents "trust" in a signer or codebase. |
| class | [**NotCompliantMBeanException**](http://docs.google.com/javax/management/NotCompliantMBeanException.html)            Exception which occurs when trying to register an object in the MBean server that is not a JMX compliant MBean. |
| class | [**Notification**](http://docs.google.com/javax/management/Notification.html)            The Notification class represents a notification emitted by an MBean. |
| class | [**NotificationFilterSupport**](http://docs.google.com/javax/management/NotificationFilterSupport.html)            Provides an implementation of the [NotificationFilter](http://docs.google.com/javax/management/NotificationFilter.html) interface. |
| class | [**ObjectInstance**](http://docs.google.com/javax/management/ObjectInstance.html)            Used to represent the object name of an MBean and its class name. |
| class | [**ObjectName**](http://docs.google.com/javax/management/ObjectName.html)            Represents the object name of an MBean, or a pattern that can match the names of several MBeans. |
| class | [**OperationsException**](http://docs.google.com/javax/management/OperationsException.html)            Represents exceptions thrown in the MBean server when performing operations on MBeans. |
| class | [**QueryEval**](http://docs.google.com/javax/management/QueryEval.html)            Allows a query to be performed in the context of a specific MBean server. |
| class | [**ReflectionException**](http://docs.google.com/javax/management/ReflectionException.html)            Represents exceptions thrown in the MBean server when using the java.lang.reflect classes to invoke methods on MBeans. |
| class | [**RuntimeErrorException**](http://docs.google.com/javax/management/RuntimeErrorException.html)            When a java.lang.Error occurs in the agent it should be caught and re-thrown as a RuntimeErrorException. |
| class | [**RuntimeMBeanException**](http://docs.google.com/javax/management/RuntimeMBeanException.html)            Represents runtime exceptions thrown by MBean methods in the agent. |
| class | [**RuntimeOperationsException**](http://docs.google.com/javax/management/RuntimeOperationsException.html)            Represents runtime exceptions thrown in the agent when performing operations on MBeans. |
| class | [**ServiceNotFoundException**](http://docs.google.com/javax/management/ServiceNotFoundException.html)            Represents exceptions raised when a requested service is not supported. |
| class | [**StringValueExp**](http://docs.google.com/javax/management/StringValueExp.html)            Represents strings that are arguments to relational constraints. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management.loading](http://docs.google.com/javax/management/loading/package-summary.html) | |
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| Classes in [javax.management.loading](http://docs.google.com/javax/management/loading/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**MLet**](http://docs.google.com/javax/management/loading/MLet.html)            Allows you to instantiate and register one or several MBeans in the MBean server coming from a remote URL. |
| class | [**PrivateMLet**](http://docs.google.com/javax/management/loading/PrivateMLet.html)            An MLet that is not added to the [ClassLoaderRepository](http://docs.google.com/javax/management/loading/ClassLoaderRepository.html). |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management.modelmbean](http://docs.google.com/javax/management/modelmbean/package-summary.html) | |
| --- | --- |

| Classes in [javax.management.modelmbean](http://docs.google.com/javax/management/modelmbean/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**DescriptorSupport**](http://docs.google.com/javax/management/modelmbean/DescriptorSupport.html)            This class represents the metadata set for a ModelMBean element. |
| class | [**InvalidTargetObjectTypeException**](http://docs.google.com/javax/management/modelmbean/InvalidTargetObjectTypeException.html)            Exception thrown when an invalid target object type is specified. |
| class | [**ModelMBeanAttributeInfo**](http://docs.google.com/javax/management/modelmbean/ModelMBeanAttributeInfo.html)            The ModelMBeanAttributeInfo object describes an attribute of the ModelMBean. |
| class | [**ModelMBeanConstructorInfo**](http://docs.google.com/javax/management/modelmbean/ModelMBeanConstructorInfo.html)            The ModelMBeanConstructorInfo object describes a constructor of the ModelMBean. |
| class | [**ModelMBeanInfoSupport**](http://docs.google.com/javax/management/modelmbean/ModelMBeanInfoSupport.html)            This class represents the meta data for ModelMBeans. |
| class | [**ModelMBeanNotificationInfo**](http://docs.google.com/javax/management/modelmbean/ModelMBeanNotificationInfo.html)            The ModelMBeanNotificationInfo object describes a notification emitted by a ModelMBean. |
| class | [**ModelMBeanOperationInfo**](http://docs.google.com/javax/management/modelmbean/ModelMBeanOperationInfo.html)            The ModelMBeanOperationInfo object describes a management operation of the ModelMBean. |
| class | [**XMLParseException**](http://docs.google.com/javax/management/modelmbean/XMLParseException.html)            This exception is thrown when an XML formatted string is being parsed into ModelMBean objects or when XML formatted strings are being created from ModelMBean objects. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management.monitor](http://docs.google.com/javax/management/monitor/package-summary.html) | |
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| Classes in [javax.management.monitor](http://docs.google.com/javax/management/monitor/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**MonitorNotification**](http://docs.google.com/javax/management/monitor/MonitorNotification.html)            Provides definitions of the notifications sent by monitor MBeans. |
| class | [**MonitorSettingException**](http://docs.google.com/javax/management/monitor/MonitorSettingException.html)            Exception thrown by the monitor when a monitor setting becomes invalid while the monitor is running. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management.openmbean](http://docs.google.com/javax/management/openmbean/package-summary.html) | |
| --- | --- |

| Classes in [javax.management.openmbean](http://docs.google.com/javax/management/openmbean/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**ArrayType<T>**](http://docs.google.com/javax/management/openmbean/ArrayType.html)            The ArrayType class is the *open type* class whose instances describe all *open data* values which are n-dimensional arrays of *open data* values. |
| class | [**CompositeDataSupport**](http://docs.google.com/javax/management/openmbean/CompositeDataSupport.html)            The CompositeDataSupport class is the *open data* class which implements the CompositeData interface. |
| class | [**CompositeType**](http://docs.google.com/javax/management/openmbean/CompositeType.html)            The CompositeType class is the *open type* class whose instances describe the types of [CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) values. |
| class | [**InvalidOpenTypeException**](http://docs.google.com/javax/management/openmbean/InvalidOpenTypeException.html)            This runtime exception is thrown to indicate that the *open type* of an *open data* value is not the one expected. |
| class | [**KeyAlreadyExistsException**](http://docs.google.com/javax/management/openmbean/KeyAlreadyExistsException.html)            This runtime exception is thrown to indicate that the index of a row to be added to a *tabular data* instance is already used to refer to another row in this *tabular data* instance. |
| class | [**OpenDataException**](http://docs.google.com/javax/management/openmbean/OpenDataException.html)            This checked exception is thrown when an *open type*, an *open data* or an *open MBean metadata info* instance could not be constructed because one or more validity constraints were not met. |
| class | [**OpenMBeanAttributeInfoSupport**](http://docs.google.com/javax/management/openmbean/OpenMBeanAttributeInfoSupport.html)            Describes an attribute of an open MBean. |
| class | [**OpenMBeanConstructorInfoSupport**](http://docs.google.com/javax/management/openmbean/OpenMBeanConstructorInfoSupport.html)            Describes a constructor of an Open MBean. |
| class | [**OpenMBeanInfoSupport**](http://docs.google.com/javax/management/openmbean/OpenMBeanInfoSupport.html)            The OpenMBeanInfoSupport class describes the management information of an *open MBean*: it is a subclass of [MBeanInfo](http://docs.google.com/javax/management/MBeanInfo.html), and it implements the [OpenMBeanInfo](http://docs.google.com/javax/management/openmbean/OpenMBeanInfo.html) interface. |
| class | [**OpenMBeanOperationInfoSupport**](http://docs.google.com/javax/management/openmbean/OpenMBeanOperationInfoSupport.html)            Describes an operation of an Open MBean. |
| class | [**OpenMBeanParameterInfoSupport**](http://docs.google.com/javax/management/openmbean/OpenMBeanParameterInfoSupport.html)            Describes a parameter used in one or more operations or constructors of an open MBean. |
| class | [**OpenType<T>**](http://docs.google.com/javax/management/openmbean/OpenType.html)            The OpenType class is the parent abstract class of all classes which describe the actual *open type* of open data values. |
| class | [**SimpleType<T>**](http://docs.google.com/javax/management/openmbean/SimpleType.html)            The SimpleType class is the *open type* class whose instances describe all *open data* values which are neither arrays, nor [CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) values, nor [TabularData](http://docs.google.com/javax/management/openmbean/TabularData.html) values. |
| class | [**TabularDataSupport**](http://docs.google.com/javax/management/openmbean/TabularDataSupport.html)            The TabularDataSupport class is the *open data* class which implements the TabularData and the Map interfaces, and which is internally based on a hash map data structure. |
| class | [**TabularType**](http://docs.google.com/javax/management/openmbean/TabularType.html)            The TabularType class is the  *open type* class whose instances describe the types of [TabularData](http://docs.google.com/javax/management/openmbean/TabularData.html) values. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management.relation](http://docs.google.com/javax/management/relation/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management.relation](http://docs.google.com/javax/management/relation/package-summary.html) | |
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| interface | [**RelationType**](http://docs.google.com/javax/management/relation/RelationType.html)            The RelationType interface has to be implemented by any class expected to represent a relation type. |

| Classes in [javax.management.relation](http://docs.google.com/javax/management/relation/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**InvalidRelationIdException**](http://docs.google.com/javax/management/relation/InvalidRelationIdException.html)            This exception is raised when relation id provided for a relation is already used. |
| class | [**InvalidRelationServiceException**](http://docs.google.com/javax/management/relation/InvalidRelationServiceException.html)            This exception is raised when an invalid Relation Service is provided. |
| class | [**InvalidRelationTypeException**](http://docs.google.com/javax/management/relation/InvalidRelationTypeException.html)            Invalid relation type. |
| class | [**InvalidRoleInfoException**](http://docs.google.com/javax/management/relation/InvalidRoleInfoException.html)            This exception is raised when, in a role info, its minimum degree is greater than its maximum degree. |
| class | [**InvalidRoleValueException**](http://docs.google.com/javax/management/relation/InvalidRoleValueException.html)            Role value is invalid. |
| class | [**MBeanServerNotificationFilter**](http://docs.google.com/javax/management/relation/MBeanServerNotificationFilter.html)            Filter for [MBeanServerNotification](http://docs.google.com/javax/management/MBeanServerNotification.html). |
| class | [**RelationException**](http://docs.google.com/javax/management/relation/RelationException.html)            This class is the superclass of any exception which can be raised during relation management. |
| class | [**RelationNotFoundException**](http://docs.google.com/javax/management/relation/RelationNotFoundException.html)            This exception is raised when there is no relation for a given relation id in a Relation Service. |
| class | [**RelationNotification**](http://docs.google.com/javax/management/relation/RelationNotification.html)            A notification of a change in the Relation Service. |
| class | [**RelationServiceNotRegisteredException**](http://docs.google.com/javax/management/relation/RelationServiceNotRegisteredException.html)            This exception is raised when an access is done to the Relation Service and that one is not registered. |
| class | [**RelationTypeNotFoundException**](http://docs.google.com/javax/management/relation/RelationTypeNotFoundException.html)            This exception is raised when there is no relation type with given name in Relation Service. |
| class | [**RelationTypeSupport**](http://docs.google.com/javax/management/relation/RelationTypeSupport.html)            A RelationTypeSupport object implements the RelationType interface. |
| class | [**Role**](http://docs.google.com/javax/management/relation/Role.html)            Represents a role: includes a role name and referenced MBeans (via their ObjectNames). |
| class | [**RoleInfo**](http://docs.google.com/javax/management/relation/RoleInfo.html)            A RoleInfo object summarises a role in a relation type. |
| class | [**RoleInfoNotFoundException**](http://docs.google.com/javax/management/relation/RoleInfoNotFoundException.html)            This exception is raised when there is no role info with given name in a given relation type. |
| class | [**RoleList**](http://docs.google.com/javax/management/relation/RoleList.html)            A RoleList represents a list of roles (Role objects). |
| class | [**RoleNotFoundException**](http://docs.google.com/javax/management/relation/RoleNotFoundException.html)            This exception is raised when a role in a relation does not exist, or is not readable, or is not settable. |
| class | [**RoleResult**](http://docs.google.com/javax/management/relation/RoleResult.html)            Represents the result of a multiple access to several roles of a relation (either for reading or writing). |
| class | [**RoleUnresolved**](http://docs.google.com/javax/management/relation/RoleUnresolved.html)            Represents an unresolved role: a role not retrieved from a relation due to a problem. |
| class | [**RoleUnresolvedList**](http://docs.google.com/javax/management/relation/RoleUnresolvedList.html)            A RoleUnresolvedList represents a list of RoleUnresolved objects, representing roles not retrieved from a relation due to a problem encountered when trying to access (read or write) the roles. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management.remote](http://docs.google.com/javax/management/remote/package-summary.html) | |
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| Classes in [javax.management.remote](http://docs.google.com/javax/management/remote/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**JMXConnectionNotification**](http://docs.google.com/javax/management/remote/JMXConnectionNotification.html)            Notification emitted when a client connection is opened or closed or when notifications are lost. |
| class | [**JMXPrincipal**](http://docs.google.com/javax/management/remote/JMXPrincipal.html)            The identity of a remote client of the JMX Remote API. |
| class | [**JMXProviderException**](http://docs.google.com/javax/management/remote/JMXProviderException.html)            Exception thrown by [JMXConnectorFactory](http://docs.google.com/javax/management/remote/JMXConnectorFactory.html) and [JMXConnectorServerFactory](http://docs.google.com/javax/management/remote/JMXConnectorServerFactory.html) when a provider exists for the required protocol but cannot be used for some reason. |
| class | [**JMXServerErrorException**](http://docs.google.com/javax/management/remote/JMXServerErrorException.html)            Exception thrown as the result of a remote [MBeanServer](http://docs.google.com/javax/management/MBeanServer.html) method invocation when an Error is thrown while processing the invocation in the remote MBean server. |
| class | [**JMXServiceURL**](http://docs.google.com/javax/management/remote/JMXServiceURL.html)            The address of a JMX API connector server. |
| class | [**NotificationResult**](http://docs.google.com/javax/management/remote/NotificationResult.html)            Result of a query for buffered notifications. |
| class | [**SubjectDelegationPermission**](http://docs.google.com/javax/management/remote/SubjectDelegationPermission.html)            Permission required by an authentication identity to perform operations on behalf of an authorization identity. |
| class | [**TargetedNotification**](http://docs.google.com/javax/management/remote/TargetedNotification.html)            A (Notification, Listener ID) pair. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management.remote.rmi](http://docs.google.com/javax/management/remote/rmi/package-summary.html) | |
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| Classes in [javax.management.remote.rmi](http://docs.google.com/javax/management/remote/rmi/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**RMIConnectionImpl\_Stub**](http://docs.google.com/javax/management/remote/rmi/RMIConnectionImpl_Stub.html) |
| class | [**RMIConnector**](http://docs.google.com/javax/management/remote/rmi/RMIConnector.html)            A connection to a remote RMI connector. |
| class | [**RMIServerImpl\_Stub**](http://docs.google.com/javax/management/remote/rmi/RMIServerImpl_Stub.html) |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.management.timer](http://docs.google.com/javax/management/timer/package-summary.html) | |
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| Classes in [javax.management.timer](http://docs.google.com/javax/management/timer/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**TimerNotification**](http://docs.google.com/javax/management/timer/TimerNotification.html)            This class provides definitions of the notifications sent by timer MBeans. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.naming](http://docs.google.com/javax/naming/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.naming](http://docs.google.com/javax/naming/package-summary.html) | |
| --- | --- |
| interface | [**Name**](http://docs.google.com/javax/naming/Name.html)            The Name interface represents a generic name -- an ordered sequence of components. |

| Classes in [javax.naming](http://docs.google.com/javax/naming/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AuthenticationException**](http://docs.google.com/javax/naming/AuthenticationException.html)            This exception is thrown when an authentication error occurs while accessing the naming or directory service. |
| class | [**AuthenticationNotSupportedException**](http://docs.google.com/javax/naming/AuthenticationNotSupportedException.html)            This exception is thrown when the particular flavor of authentication requested is not supported. |
| class | [**BinaryRefAddr**](http://docs.google.com/javax/naming/BinaryRefAddr.html)            This class represents the binary form of the address of a communications end-point. |
| class | [**Binding**](http://docs.google.com/javax/naming/Binding.html)            This class represents a name-to-object binding found in a context. |
| class | [**CannotProceedException**](http://docs.google.com/javax/naming/CannotProceedException.html)            This exception is thrown to indicate that the operation reached a point in the name where the operation cannot proceed any further. |
| class | [**CommunicationException**](http://docs.google.com/javax/naming/CommunicationException.html)            This exception is thrown when the client is unable to communicate with the directory or naming service. |
| class | [**CompositeName**](http://docs.google.com/javax/naming/CompositeName.html)            This class represents a composite name -- a sequence of component names spanning multiple namespaces. |
| class | [**CompoundName**](http://docs.google.com/javax/naming/CompoundName.html)            This class represents a compound name -- a name from a hierarchical name space. |
| class | [**ConfigurationException**](http://docs.google.com/javax/naming/ConfigurationException.html)            This exception is thrown when there is a configuration problem. |
| class | [**ContextNotEmptyException**](http://docs.google.com/javax/naming/ContextNotEmptyException.html)            This exception is thrown when attempting to destroy a context that is not empty. |
| class | [**InsufficientResourcesException**](http://docs.google.com/javax/naming/InsufficientResourcesException.html)            This exception is thrown when resources are not available to complete the requested operation. |
| class | [**InterruptedNamingException**](http://docs.google.com/javax/naming/InterruptedNamingException.html)            This exception is thrown when the naming operation being invoked has been interrupted. |
| class | [**InvalidNameException**](http://docs.google.com/javax/naming/InvalidNameException.html)            This exception indicates that the name being specified does not conform to the naming syntax of a naming system. |
| class | [**LimitExceededException**](http://docs.google.com/javax/naming/LimitExceededException.html)            This exception is thrown when a method terminates abnormally due to a user or system specified limit. |
| class | [**LinkException**](http://docs.google.com/javax/naming/LinkException.html)            This exception is used to describe problems encounter while resolving links. |
| class | [**LinkLoopException**](http://docs.google.com/javax/naming/LinkLoopException.html)            This exception is thrown when a loop was detected will attempting to resolve a link, or an implementation specific limit on link counts has been reached. |
| class | [**LinkRef**](http://docs.google.com/javax/naming/LinkRef.html)            This class represents a Reference whose contents is a name, called the link name, that is bound to an atomic name in a context. |
| class | [**MalformedLinkException**](http://docs.google.com/javax/naming/MalformedLinkException.html)            This exception is thrown when a malformed link was encountered while resolving or constructing a link. |
| class | [**NameAlreadyBoundException**](http://docs.google.com/javax/naming/NameAlreadyBoundException.html)            This exception is thrown by methods to indicate that a binding cannot be added because the name is already bound to another object. |
| class | [**NameClassPair**](http://docs.google.com/javax/naming/NameClassPair.html)            This class represents the object name and class name pair of a binding found in a context. |
| class | [**NameNotFoundException**](http://docs.google.com/javax/naming/NameNotFoundException.html)            This exception is thrown when a component of the name cannot be resolved because it is not bound. |
| class | [**NamingException**](http://docs.google.com/javax/naming/NamingException.html)            This is the superclass of all exceptions thrown by operations in the Context and DirContext interfaces. |
| class | [**NamingSecurityException**](http://docs.google.com/javax/naming/NamingSecurityException.html)            This is the superclass of security-related exceptions thrown by operations in the Context and DirContext interfaces. |
| class | [**NoInitialContextException**](http://docs.google.com/javax/naming/NoInitialContextException.html)            This exception is thrown when no initial context implementation can be created. |
| class | [**NoPermissionException**](http://docs.google.com/javax/naming/NoPermissionException.html)            This exception is thrown when attempting to perform an operation for which the client has no permission. |
| class | [**NotContextException**](http://docs.google.com/javax/naming/NotContextException.html)            This exception is thrown when a naming operation proceeds to a point where a context is required to continue the operation, but the resolved object is not a context. |
| class | [**OperationNotSupportedException**](http://docs.google.com/javax/naming/OperationNotSupportedException.html)            This exception is thrown when a context implementation does not support the operation being invoked. |
| class | [**PartialResultException**](http://docs.google.com/javax/naming/PartialResultException.html)            This exception is thrown to indicate that the result being returned or returned so far is partial, and that the operation cannot be completed. |
| class | [**RefAddr**](http://docs.google.com/javax/naming/RefAddr.html)            This class represents the address of a communications end-point. |
| class | [**Reference**](http://docs.google.com/javax/naming/Reference.html)            This class represents a reference to an object that is found outside of the naming/directory system. |
| class | [**ReferralException**](http://docs.google.com/javax/naming/ReferralException.html)            This abstract class is used to represent a referral exception, which is generated in response to a *referral* such as that returned by LDAP v3 servers. |
| class | [**ServiceUnavailableException**](http://docs.google.com/javax/naming/ServiceUnavailableException.html)            This exception is thrown when attempting to communicate with a directory or naming service and that service is not available. |
| class | [**SizeLimitExceededException**](http://docs.google.com/javax/naming/SizeLimitExceededException.html)            This exception is thrown when a method produces a result that exceeds a size-related limit. |
| class | [**StringRefAddr**](http://docs.google.com/javax/naming/StringRefAddr.html)            This class represents the string form of the address of a communications end-point. |
| class | [**TimeLimitExceededException**](http://docs.google.com/javax/naming/TimeLimitExceededException.html)            This exception is thrown when a method does not terminate within the specified time limit. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.naming.directory](http://docs.google.com/javax/naming/directory/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.naming.directory](http://docs.google.com/javax/naming/directory/package-summary.html) | |
| --- | --- |
| interface | [**Attribute**](http://docs.google.com/javax/naming/directory/Attribute.html)            This interface represents an attribute associated with a named object. |
| interface | [**Attributes**](http://docs.google.com/javax/naming/directory/Attributes.html)            This interface represents a collection of attributes. |

| Classes in [javax.naming.directory](http://docs.google.com/javax/naming/directory/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AttributeInUseException**](http://docs.google.com/javax/naming/directory/AttributeInUseException.html)            This exception is thrown when an operation attempts to add an attribute that already exists. |
| class | [**AttributeModificationException**](http://docs.google.com/javax/naming/directory/AttributeModificationException.html)            This exception is thrown when an attempt is made to add, or remove, or modify an attribute, its identifier, or its values that conflicts with the attribute's (schema) definition or the attribute's state. |
| class | [**BasicAttribute**](http://docs.google.com/javax/naming/directory/BasicAttribute.html)            This class provides a basic implementation of the Attribute interface. |
| class | [**BasicAttributes**](http://docs.google.com/javax/naming/directory/BasicAttributes.html)            This class provides a basic implementation of the Attributes interface. |
| class | [**InvalidAttributeIdentifierException**](http://docs.google.com/javax/naming/directory/InvalidAttributeIdentifierException.html)            This exception is thrown when an attempt is made to add to create an attribute with an invalid attribute identifier. |
| class | [**InvalidAttributesException**](http://docs.google.com/javax/naming/directory/InvalidAttributesException.html)            This exception is thrown when an attempt is made to add or modify an attribute set that has been specified incompletely or incorrectly. |
| class | [**InvalidSearchControlsException**](http://docs.google.com/javax/naming/directory/InvalidSearchControlsException.html)            This exception is thrown when the specification of the SearchControls for a search operation is invalid. |
| class | [**InvalidSearchFilterException**](http://docs.google.com/javax/naming/directory/InvalidSearchFilterException.html)            This exception is thrown when the specification of a search filter is invalid. |
| class | [**ModificationItem**](http://docs.google.com/javax/naming/directory/ModificationItem.html)            This class represents a modification item. |
| class | [**NoSuchAttributeException**](http://docs.google.com/javax/naming/directory/NoSuchAttributeException.html)            This exception is thrown when attempting to access an attribute that does not exist. |
| class | [**SchemaViolationException**](http://docs.google.com/javax/naming/directory/SchemaViolationException.html)            This exception is thrown when a method in some ways violates the schema. |
| class | [**SearchControls**](http://docs.google.com/javax/naming/directory/SearchControls.html)            This class encapsulates factors that determine scope of search and what gets returned as a result of the search. |
| class | [**SearchResult**](http://docs.google.com/javax/naming/directory/SearchResult.html)            This class represents an item in the NamingEnumeration returned as a result of the DirContext.search() methods. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.naming.event](http://docs.google.com/javax/naming/event/package-summary.html) | |
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| Classes in [javax.naming.event](http://docs.google.com/javax/naming/event/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**NamingEvent**](http://docs.google.com/javax/naming/event/NamingEvent.html)            This class represents an event fired by a naming/directory service. |
| class | [**NamingExceptionEvent**](http://docs.google.com/javax/naming/event/NamingExceptionEvent.html)            This class represents an event fired when the procedures/processes used to collect information for notifying listeners of NamingEvents threw a NamingException. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.naming.ldap](http://docs.google.com/javax/naming/ldap/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.naming.ldap](http://docs.google.com/javax/naming/ldap/package-summary.html) | |
| --- | --- |
| interface | [**Control**](http://docs.google.com/javax/naming/ldap/Control.html)            This interface represents an LDAPv3 control as defined in [RFC 2251](http://docs.google.com/javax/naming/ldap/ftp://ftp.isi.edu/in-notes/rfc2251.txt). |
| interface | [**ExtendedRequest**](http://docs.google.com/javax/naming/ldap/ExtendedRequest.html)            This interface represents an LDAPv3 extended operation request as defined in [RFC 2251](http://docs.google.com/javax/naming/ldap/ftp://ftp.isi.edu/in-notes/rfc2251.txt). |
| interface | [**ExtendedResponse**](http://docs.google.com/javax/naming/ldap/ExtendedResponse.html)            This interface represents an LDAP extended operation response as defined in [RFC 2251](http://docs.google.com/javax/naming/ldap/ftp://ftp.isi.edu/in-notes/rfc2251.txt). |
| interface | [**UnsolicitedNotification**](http://docs.google.com/javax/naming/ldap/UnsolicitedNotification.html)            This interface represents an unsolicited notification as defined in [RFC 2251](http://docs.google.com/javax/naming/ldap/ftp://ftp.isi.edu/in-notes/rfc2251.txt). |

| Classes in [javax.naming.ldap](http://docs.google.com/javax/naming/ldap/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**BasicControl**](http://docs.google.com/javax/naming/ldap/BasicControl.html)            This class provides a basic implementation of the Control interface. |
| class | [**LdapName**](http://docs.google.com/javax/naming/ldap/LdapName.html)            This class represents a distinguished name as specified by [RFC 2253](http://ietf.org//rfc/rfc2253.txt). |
| class | [**LdapReferralException**](http://docs.google.com/javax/naming/ldap/LdapReferralException.html)            This abstract class is used to represent an LDAP referral exception. |
| class | [**ManageReferralControl**](http://docs.google.com/javax/naming/ldap/ManageReferralControl.html)            Requests that referral and other special LDAP objects be manipulated as normal LDAP objects. |
| class | [**PagedResultsControl**](http://docs.google.com/javax/naming/ldap/PagedResultsControl.html)            Requests that the results of a search operation be returned by the LDAP server in batches of a specified size. |
| class | [**PagedResultsResponseControl**](http://docs.google.com/javax/naming/ldap/PagedResultsResponseControl.html)            Indicates the end of a batch of search results. |
| class | [**Rdn**](http://docs.google.com/javax/naming/ldap/Rdn.html)            This class represents a relative distinguished name, or RDN, which is a component of a distinguished name as specified by [RFC 2253](http://ietf.org/rfc/rfc2253.txt). |
| class | [**SortControl**](http://docs.google.com/javax/naming/ldap/SortControl.html)            Requests that the results of a search operation be sorted by the LDAP server before being returned. |
| class | [**SortResponseControl**](http://docs.google.com/javax/naming/ldap/SortResponseControl.html)            Indicates whether the requested sort of search results was successful or not. |
| class | [**StartTlsRequest**](http://docs.google.com/javax/naming/ldap/StartTlsRequest.html)            This class implements the LDAPv3 Extended Request for StartTLS as defined in [Lightweight Directory Access Protocol (v3): Extension for Transport Layer Security](http://www.ietf.org/rfc/rfc2830.txt) The object identifier for StartTLS is 1.3.6.1.4.1.1466.20037 and no extended request value is defined. |
| class | [**StartTlsResponse**](http://docs.google.com/javax/naming/ldap/StartTlsResponse.html)            This class implements the LDAPv3 Extended Response for StartTLS as defined in [Lightweight Directory Access Protocol (v3): Extension for Transport Layer Security](http://www.ietf.org/rfc/rfc2830.txt) The object identifier for StartTLS is 1.3.6.1.4.1.1466.20037 and no extended response value is defined. |
| class | [**UnsolicitedNotificationEvent**](http://docs.google.com/javax/naming/ldap/UnsolicitedNotificationEvent.html)            This class represents an event fired in response to an unsolicited notification sent by the LDAP server. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.naming.spi](http://docs.google.com/javax/naming/spi/package-summary.html) | |
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| Classes in [javax.naming.spi](http://docs.google.com/javax/naming/spi/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**ResolveResult**](http://docs.google.com/javax/naming/spi/ResolveResult.html)            This class represents the result of resolution of a name. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.net.ssl](http://docs.google.com/javax/net/ssl/package-summary.html) | |
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| Classes in [javax.net.ssl](http://docs.google.com/javax/net/ssl/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**HandshakeCompletedEvent**](http://docs.google.com/javax/net/ssl/HandshakeCompletedEvent.html)            This event indicates that an SSL handshake completed on a given SSL connection. |
| static class | [**SSLEngineResult.HandshakeStatus**](http://docs.google.com/javax/net/ssl/SSLEngineResult.HandshakeStatus.html)            An SSLEngineResult enum describing the current handshaking state of this SSLEngine. |
| static class | [**SSLEngineResult.Status**](http://docs.google.com/javax/net/ssl/SSLEngineResult.Status.html)            An SSLEngineResult enum describing the overall result of the SSLEngine operation. |
| class | [**SSLException**](http://docs.google.com/javax/net/ssl/SSLException.html)            Indicates some kind of error detected by an SSL subsystem. |
| class | [**SSLHandshakeException**](http://docs.google.com/javax/net/ssl/SSLHandshakeException.html)            Indicates that the client and server could not negotiate the desired level of security. |
| class | [**SSLKeyException**](http://docs.google.com/javax/net/ssl/SSLKeyException.html)            Reports a bad SSL key. |
| class | [**SSLPeerUnverifiedException**](http://docs.google.com/javax/net/ssl/SSLPeerUnverifiedException.html)            Indicates that the peer's identity has not been verified. |
| class | [**SSLPermission**](http://docs.google.com/javax/net/ssl/SSLPermission.html)            This class is for various network permissions. |
| class | [**SSLProtocolException**](http://docs.google.com/javax/net/ssl/SSLProtocolException.html)            Reports an error in the operation of the SSL protocol. |
| class | [**SSLSessionBindingEvent**](http://docs.google.com/javax/net/ssl/SSLSessionBindingEvent.html)            This event is propagated to a SSLSessionBindingListener. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.print](http://docs.google.com/javax/print/package-summary.html) | |
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| Classes in [javax.print](http://docs.google.com/javax/print/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**DocFlavor**](http://docs.google.com/javax/print/DocFlavor.html)            Class DocFlavor encapsulates an object that specifies the format in which print data is supplied to a [DocPrintJob](http://docs.google.com/javax/print/DocPrintJob.html). |
| static class | [**DocFlavor.BYTE\_ARRAY**](http://docs.google.com/javax/print/DocFlavor.BYTE_ARRAY.html)            Class DocFlavor.BYTE\_ARRAY provides predefined static constant DocFlavor objects for example doc flavors using a byte array (byte[]) as the print data representation class. |
| static class | [**DocFlavor.CHAR\_ARRAY**](http://docs.google.com/javax/print/DocFlavor.CHAR_ARRAY.html)            Class DocFlavor.CHAR\_ARRAY provides predefined static constant DocFlavor objects for example doc flavors using a character array (char[]) as the print data representation class. |
| static class | [**DocFlavor.INPUT\_STREAM**](http://docs.google.com/javax/print/DocFlavor.INPUT_STREAM.html)            Class DocFlavor.INPUT\_STREAM provides predefined static constant DocFlavor objects for example doc flavors using a byte stream ([java.io.InputStream](http://docs.google.com/java/io/InputStream.html)) as the print data representation class. |
| static class | [**DocFlavor.READER**](http://docs.google.com/javax/print/DocFlavor.READER.html)            Class DocFlavor.READER provides predefined static constant DocFlavor objects for example doc flavors using a character stream ([java.io.Reader](http://docs.google.com/java/io/Reader.html)) as the print data representation class. |
| static class | [**DocFlavor.SERVICE\_FORMATTED**](http://docs.google.com/javax/print/DocFlavor.SERVICE_FORMATTED.html)            Class DocFlavor.SERVICE\_FORMATTED provides predefined static constant DocFlavor objects for example doc flavors for service formatted print data. |
| static class | [**DocFlavor.STRING**](http://docs.google.com/javax/print/DocFlavor.STRING.html)            Class DocFlavor.STRING provides predefined static constant DocFlavor objects for example doc flavors using a string ([java.lang.String](http://docs.google.com/java/lang/String.html)) as the print data representation class. |
| static class | [**DocFlavor.URL**](http://docs.google.com/javax/print/DocFlavor.URL.html)            Class DocFlavor.URL provides predefined static constant DocFlavor objects. |
| class | [**PrintException**](http://docs.google.com/javax/print/PrintException.html)            Class PrintException encapsulates a printing-related error condition that occurred while using a Print Service instance. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.print.attribute](http://docs.google.com/javax/print/attribute/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.print.attribute](http://docs.google.com/javax/print/attribute/package-summary.html) | |
| --- | --- |
| interface | [**DocAttribute**](http://docs.google.com/javax/print/attribute/DocAttribute.html)            Interface DocAttribute is a tagging interface which a printing attribute class implements to indicate the attribute denotes a setting for a doc. |
| interface | [**PrintJobAttribute**](http://docs.google.com/javax/print/attribute/PrintJobAttribute.html)            PrintJobAttribute is a tagging interface which a printing attribute class implements to indicate the attribute describes the status of a Print Job or some other characteristic of a Print Job. |
| interface | [**PrintRequestAttribute**](http://docs.google.com/javax/print/attribute/PrintRequestAttribute.html)            Interface PrintRequestAttribute is a tagging interface which a printing attribute class implements to indicate the attribute denotes a requested setting for a print job. |
| interface | [**PrintServiceAttribute**](http://docs.google.com/javax/print/attribute/PrintServiceAttribute.html)            Interface PrintServiceAttribute is a tagging interface which a printing attribute class implements to indicate the attribute describes the status of a Print Service or some other characteristic of a Print Service. |
| interface | [**SupportedValuesAttribute**](http://docs.google.com/javax/print/attribute/SupportedValuesAttribute.html)            Interface SupportedValuesAttribute is a tagging interface which a printing attribute class implements to indicate the attribute describes the supported values for another attribute. |

| Classes in [javax.print.attribute](http://docs.google.com/javax/print/attribute/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**DateTimeSyntax**](http://docs.google.com/javax/print/attribute/DateTimeSyntax.html)            Class DateTimeSyntax is an abstract base class providing the common implementation of all attributes whose value is a date and time. |
| class | [**EnumSyntax**](http://docs.google.com/javax/print/attribute/EnumSyntax.html)            Class EnumSyntax is an abstract base class providing the common implementation of all "type safe enumeration" objects. |
| class | [**HashAttributeSet**](http://docs.google.com/javax/print/attribute/HashAttributeSet.html)            Class HashAttributeSet provides an AttributeSet implementation with characteristics of a hash map. |
| class | [**HashDocAttributeSet**](http://docs.google.com/javax/print/attribute/HashDocAttributeSet.html)            Class HashDocAttributeSet provides an attribute set which inherits its implementation from class [HashAttributeSet](http://docs.google.com/javax/print/attribute/HashAttributeSet.html) and enforces the semantic restrictions of interface [DocAttributeSet](http://docs.google.com/javax/print/attribute/DocAttributeSet.html). |
| class | [**HashPrintJobAttributeSet**](http://docs.google.com/javax/print/attribute/HashPrintJobAttributeSet.html)            Class HashPrintJobAttributeSet provides an attribute set which inherits its implementation from class [HashAttributeSet](http://docs.google.com/javax/print/attribute/HashAttributeSet.html) and enforces the semantic restrictions of interface [PrintJobAttributeSet](http://docs.google.com/javax/print/attribute/PrintJobAttributeSet.html). |
| class | [**HashPrintRequestAttributeSet**](http://docs.google.com/javax/print/attribute/HashPrintRequestAttributeSet.html)            Class HashPrintRequestAttributeSet inherits its implementation from class [HashAttributeSet](http://docs.google.com/javax/print/attribute/HashAttributeSet.html) and enforces the semantic restrictions of interface [PrintRequestAttributeSet](http://docs.google.com/javax/print/attribute/PrintRequestAttributeSet.html). |
| class | [**HashPrintServiceAttributeSet**](http://docs.google.com/javax/print/attribute/HashPrintServiceAttributeSet.html)            Class HashPrintServiceAttributeSet provides an attribute set which inherits its implementation from class [HashAttributeSet](http://docs.google.com/javax/print/attribute/HashAttributeSet.html) and enforces the semantic restrictions of interface [PrintServiceAttributeSet](http://docs.google.com/javax/print/attribute/PrintServiceAttributeSet.html). |
| class | [**IntegerSyntax**](http://docs.google.com/javax/print/attribute/IntegerSyntax.html)            Class IntegerSyntax is an abstract base class providing the common implementation of all attributes with integer values. |
| class | [**ResolutionSyntax**](http://docs.google.com/javax/print/attribute/ResolutionSyntax.html)            Class ResolutionSyntax is an abstract base class providing the common implementation of all attributes denoting a printer resolution. |
| class | [**SetOfIntegerSyntax**](http://docs.google.com/javax/print/attribute/SetOfIntegerSyntax.html)            Class SetOfIntegerSyntax is an abstract base class providing the common implementation of all attributes whose value is a set of nonnegative integers. |
| class | [**Size2DSyntax**](http://docs.google.com/javax/print/attribute/Size2DSyntax.html)            Class Size2DSyntax is an abstract base class providing the common implementation of all attributes denoting a size in two dimensions. |
| class | [**TextSyntax**](http://docs.google.com/javax/print/attribute/TextSyntax.html)            Class TextSyntax is an abstract base class providing the common implementation of all attributes whose value is a string. |
| class | [**UnmodifiableSetException**](http://docs.google.com/javax/print/attribute/UnmodifiableSetException.html)            Thrown to indicate that the requested operation cannot be performed because the set is unmodifiable. |
| class | [**URISyntax**](http://docs.google.com/javax/print/attribute/URISyntax.html)            Class URISyntax is an abstract base class providing the common implementation of all attributes whose value is a Uniform Resource Identifier (URI). |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.print.attribute.standard](http://docs.google.com/javax/print/attribute/standard/package-summary.html) | |
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| Classes in [javax.print.attribute.standard](http://docs.google.com/javax/print/attribute/standard/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**Chromaticity**](http://docs.google.com/javax/print/attribute/standard/Chromaticity.html)            Class Chromaticity is a printing attribute class, an enumeration, that specifies monochrome or color printing. |
| class | [**ColorSupported**](http://docs.google.com/javax/print/attribute/standard/ColorSupported.html)            Class ColorSupported is a printing attribute class, an enumeration, that identifies whether the device is capable of any type of color printing at all, including highlight color as well as full process color. |
| class | [**Compression**](http://docs.google.com/javax/print/attribute/standard/Compression.html)            Class Compression is a printing attribute class, an enumeration, that specifies how print data is compressed. |
| class | [**Copies**](http://docs.google.com/javax/print/attribute/standard/Copies.html)            Class Copies is an integer valued printing attribute class that specifies the number of copies to be printed. |
| class | [**CopiesSupported**](http://docs.google.com/javax/print/attribute/standard/CopiesSupported.html)            Class CopiesSupported is a printing attribute class, a set of integers, that gives the supported values for a [Copies](http://docs.google.com/javax/print/attribute/standard/Copies.html) attribute. |
| class | [**DateTimeAtCompleted**](http://docs.google.com/javax/print/attribute/standard/DateTimeAtCompleted.html)            Class DateTimeAtCompleted is a printing attribute class, a date-time attribute, that indicates the date and time at which the Print Job completed (or was canceled or aborted). |
| class | [**DateTimeAtCreation**](http://docs.google.com/javax/print/attribute/standard/DateTimeAtCreation.html)            Class DateTimeAtCreation is a printing attribute class, a date-time attribute, that indicates the date and time at which the Print Job was created. |
| class | [**DateTimeAtProcessing**](http://docs.google.com/javax/print/attribute/standard/DateTimeAtProcessing.html)            Class DateTimeAtProcessing is a printing attribute class, a date-time attribute, that indicates the date and time at which the Print Job first began processing. |
| class | [**Destination**](http://docs.google.com/javax/print/attribute/standard/Destination.html)            Class Destination is a printing attribute class, a URI, that is used to indicate an alternate destination for the spooled printer formatted data. |
| class | [**DocumentName**](http://docs.google.com/javax/print/attribute/standard/DocumentName.html)            Class DocumentName is a printing attribute class, a text attribute, that specifies the name of a document. |
| class | [**Fidelity**](http://docs.google.com/javax/print/attribute/standard/Fidelity.html)            Class Fidelity is a printing attribute class, an enumeration, that indicates whether total fidelity to client supplied print request attributes is required. |
| class | [**Finishings**](http://docs.google.com/javax/print/attribute/standard/Finishings.html)            Class Finishings is a printing attribute class, an enumeration, that identifies whether the printer applies a finishing operation of some kind of binding to each copy of each printed document in the job. |
| class | [**JobHoldUntil**](http://docs.google.com/javax/print/attribute/standard/JobHoldUntil.html)            Class JobHoldUntil is a printing attribute class, a date-time attribute, that specifies the exact date and time at which the job must become a candidate for printing. |
| class | [**JobImpressions**](http://docs.google.com/javax/print/attribute/standard/JobImpressions.html)            Class JobImpressions is an integer valued printing attribute class that specifies the total size in number of impressions of the document(s) being submitted. |
| class | [**JobImpressionsCompleted**](http://docs.google.com/javax/print/attribute/standard/JobImpressionsCompleted.html)            Class JobImpressionsCompleted is an integer valued printing attribute class that specifies the number of impressions completed for the job so far. |
| class | [**JobImpressionsSupported**](http://docs.google.com/javax/print/attribute/standard/JobImpressionsSupported.html)            Class JobImpressionsSupported is a printing attribute class, a set of integers, that gives the supported values for a [JobImpressions](http://docs.google.com/javax/print/attribute/standard/JobImpressions.html) attribute. |
| class | [**JobKOctets**](http://docs.google.com/javax/print/attribute/standard/JobKOctets.html)            Class JobKOctets is an integer valued printing attribute class that specifies the total size of the document(s) in K octets, i.e., in units of 1024 octets requested to be processed in the job. |
| class | [**JobKOctetsProcessed**](http://docs.google.com/javax/print/attribute/standard/JobKOctetsProcessed.html)            Class JobKOctetsProcessed is an integer valued printing attribute class that specifies the total number of print data octets processed so far in K octets, i.e., in units of 1024 octets. |
| class | [**JobKOctetsSupported**](http://docs.google.com/javax/print/attribute/standard/JobKOctetsSupported.html)            Class JobKOctetsSupported is a printing attribute class, a set of integers, that gives the supported values for a [JobKOctets](http://docs.google.com/javax/print/attribute/standard/JobKOctets.html) attribute. |
| class | [**JobMediaSheets**](http://docs.google.com/javax/print/attribute/standard/JobMediaSheets.html)            Class JobMediaSheets is an integer valued printing attribute class that specifies the total number of media sheets to be produced for this job. |
| class | [**JobMediaSheetsCompleted**](http://docs.google.com/javax/print/attribute/standard/JobMediaSheetsCompleted.html)            Class JobMediaSheetsCompleted is an integer valued printing attribute class that specifies the number of media sheets which have completed marking and stacking for the entire job so far, whether those sheets have been processed on one side or on both. |
| class | [**JobMediaSheetsSupported**](http://docs.google.com/javax/print/attribute/standard/JobMediaSheetsSupported.html)            Class JobMediaSheetsSupported is a printing attribute class, a set of integers, that gives the supported values for a [JobMediaSheets](http://docs.google.com/javax/print/attribute/standard/JobMediaSheets.html) attribute. |
| class | [**JobMessageFromOperator**](http://docs.google.com/javax/print/attribute/standard/JobMessageFromOperator.html)            Class JobMessageFromOperator is a printing attribute class, a text attribute, that provides a message from an operator, system administrator, or "intelligent" process to indicate to the end user the reasons for modification or other management action taken on a job. |
| class | [**JobName**](http://docs.google.com/javax/print/attribute/standard/JobName.html)            Class JobName is a printing attribute class, a text attribute, that specifies the name of a print job. |
| class | [**JobOriginatingUserName**](http://docs.google.com/javax/print/attribute/standard/JobOriginatingUserName.html)            Class JobOriginatingUserName is a printing attribute class, a text attribute, that contains the name of the end user that submitted the print job. |
| class | [**JobPriority**](http://docs.google.com/javax/print/attribute/standard/JobPriority.html)            Class JobPriority is an integer valued printing attribute class that specifies a print job's priority. |
| class | [**JobPrioritySupported**](http://docs.google.com/javax/print/attribute/standard/JobPrioritySupported.html)            Class JobPrioritySupported is an integer valued printing attribute class that specifies whether a Print Service instance supports the [JobPriority](http://docs.google.com/javax/print/attribute/standard/JobPriority.html) attribute and the number of different job priority levels supported. |
| class | [**JobSheets**](http://docs.google.com/javax/print/attribute/standard/JobSheets.html)            Class JobSheets is a printing attribute class, an enumeration, that determines which job start and end sheets, if any, must be printed with a job. |
| class | [**JobState**](http://docs.google.com/javax/print/attribute/standard/JobState.html)            JobState is a printing attribute class, an enumeration, that identifies the current state of a print job. |
| class | [**JobStateReason**](http://docs.google.com/javax/print/attribute/standard/JobStateReason.html)            Class JobStateReason is a printing attribute class, an enumeration, that provides additional information about the job's current state, i.e., information that augments the value of the job's [JobState](http://docs.google.com/javax/print/attribute/standard/JobState.html) attribute. |
| class | [**JobStateReasons**](http://docs.google.com/javax/print/attribute/standard/JobStateReasons.html)            Class JobStateReasons is a printing attribute class, a set of enumeration values, that provides additional information about the job's current state, i.e., information that augments the value of the job's [JobState](http://docs.google.com/javax/print/attribute/standard/JobState.html) attribute. |
| class | [**Media**](http://docs.google.com/javax/print/attribute/standard/Media.html)            Class Media is a printing attribute class that specifies the medium on which to print. |
| class | [**MediaName**](http://docs.google.com/javax/print/attribute/standard/MediaName.html)            Class MediaName is a subclass of Media, a printing attribute class (an enumeration) that specifies the media for a print job as a name. |
| class | [**MediaPrintableArea**](http://docs.google.com/javax/print/attribute/standard/MediaPrintableArea.html)            Class MediaPrintableArea is a printing attribute used to distinguish the printable and non-printable areas of media. |
| class | [**MediaSize**](http://docs.google.com/javax/print/attribute/standard/MediaSize.html)            Class MediaSize is a two-dimensional size valued printing attribute class that indicates the dimensions of the medium in a portrait orientation, with the X dimension running along the bottom edge and the Y dimension running along the left edge. |
| class | [**MediaSizeName**](http://docs.google.com/javax/print/attribute/standard/MediaSizeName.html)            Class MediaSizeName is a subclass of Media. |
| class | [**MediaTray**](http://docs.google.com/javax/print/attribute/standard/MediaTray.html)            Class MediaTray is a subclass of Media. |
| class | [**MultipleDocumentHandling**](http://docs.google.com/javax/print/attribute/standard/MultipleDocumentHandling.html)            Class MultipleDocumentHandling is a printing attribute class, an enumeration, that controls finishing operations and the placement of one or more print-stream pages into impressions and onto media sheets. |
| class | [**NumberOfDocuments**](http://docs.google.com/javax/print/attribute/standard/NumberOfDocuments.html)            Class NumberOfDocuments is an integer valued printing attribute that indicates the number of individual docs the printer has accepted for this job, regardless of whether the docs' print data has reached the printer or not. |
| class | [**NumberOfInterveningJobs**](http://docs.google.com/javax/print/attribute/standard/NumberOfInterveningJobs.html)            Class NumberOfInterveningJobs is an integer valued printing attribute that indicates the number of jobs that are ahead of this job in the relative chronological order of expected time to complete (i.e., the current scheduled order). |
| class | [**NumberUp**](http://docs.google.com/javax/print/attribute/standard/NumberUp.html)            Class NumberUp is an integer valued printing attribute class that specifies the number of print-stream pages to impose upon a single side of an instance of a selected medium. |
| class | [**NumberUpSupported**](http://docs.google.com/javax/print/attribute/standard/NumberUpSupported.html)            Class NumberUpSupported is a printing attribute class, a set of integers, that gives the supported values for a [NumberUp](http://docs.google.com/javax/print/attribute/standard/NumberUp.html) attribute. |
| class | [**OrientationRequested**](http://docs.google.com/javax/print/attribute/standard/OrientationRequested.html)            Class OrientationRequested is a printing attribute class, an enumeration, that indicates the desired orientation for printed print-stream pages; it does not describe the orientation of the client-supplied print-stream pages. |
| class | [**OutputDeviceAssigned**](http://docs.google.com/javax/print/attribute/standard/OutputDeviceAssigned.html)            Class OutputDeviceAssigned is a printing attribute class, a text attribute, that identifies the output device to which the service has assigned this job. |
| class | [**PageRanges**](http://docs.google.com/javax/print/attribute/standard/PageRanges.html)            Class PageRanges is a printing attribute class, a set of integers, that identifies the range(s) of print-stream pages that the Printer object uses for each copy of each document which are to be printed. |
| class | [**PagesPerMinute**](http://docs.google.com/javax/print/attribute/standard/PagesPerMinute.html)            Class PagesPerMinute is an integer valued printing attribute that indicates the nominal number of pages per minute to the nearest whole number which may be generated by this printer (e.g., simplex, black-and-white). |
| class | [**PagesPerMinuteColor**](http://docs.google.com/javax/print/attribute/standard/PagesPerMinuteColor.html)            Class PagesPerMinuteColor is an integer valued printing attribute that indicates the nominal number of pages per minute to the nearest whole number which may be generated by this printer when printing color (e.g., simplex, color). |
| class | [**PDLOverrideSupported**](http://docs.google.com/javax/print/attribute/standard/PDLOverrideSupported.html)            Class PDLOverrideSupported is a printing attribute class, an enumeration, that expresses the printer's ability to attempt to override processing instructions embedded in documents' print data with processing instructions specified as attributes outside the print data. |
| class | [**PresentationDirection**](http://docs.google.com/javax/print/attribute/standard/PresentationDirection.html)            Class PresentationDirection is a printing attribute class, an enumeration, that is used in conjunction with the [NumberUp](http://docs.google.com/javax/print/attribute/standard/NumberUp.html) attribute to indicate the layout of multiple print-stream pages to impose upon a single side of an instance of a selected medium. |
| class | [**PrinterInfo**](http://docs.google.com/javax/print/attribute/standard/PrinterInfo.html)            Class PrinterInfo is a printing attribute class, a text attribute, that provides descriptive information about a printer. |
| class | [**PrinterIsAcceptingJobs**](http://docs.google.com/javax/print/attribute/standard/PrinterIsAcceptingJobs.html)            Class PrinterIsAcceptingJobs is a printing attribute class, an enumeration, that indicates whether the printer is currently able to accept jobs. |
| class | [**PrinterLocation**](http://docs.google.com/javax/print/attribute/standard/PrinterLocation.html)            Class PrinterLocation is a printing attribute class, a text attribute, that identifies the location of the device. |
| class | [**PrinterMakeAndModel**](http://docs.google.com/javax/print/attribute/standard/PrinterMakeAndModel.html)            Class PrinterMakeAndModel is a printing attribute class, a text attribute, that the make and model of the printer. |
| class | [**PrinterMessageFromOperator**](http://docs.google.com/javax/print/attribute/standard/PrinterMessageFromOperator.html)            Class PrinterMessageFromOperator is a printing attribute class, a text attribute, that provides a message from an operator, system administrator, or "intelligent" process to indicate to the end user information about or status of the printer, such as why it is unavailable or when it is expected to be available. |
| class | [**PrinterMoreInfo**](http://docs.google.com/javax/print/attribute/standard/PrinterMoreInfo.html)            Class PrinterMoreInfo is a printing attribute class, a URI, that is used to obtain more information about this specific printer. |
| class | [**PrinterMoreInfoManufacturer**](http://docs.google.com/javax/print/attribute/standard/PrinterMoreInfoManufacturer.html)            Class PrinterMoreInfoManufacturer is a printing attribute class, a URI, that is used to obtain more information about this type of device. |
| class | [**PrinterName**](http://docs.google.com/javax/print/attribute/standard/PrinterName.html)            Class PrinterName is a printing attribute class, a text attribute, that specifies the name of a printer. |
| class | [**PrinterResolution**](http://docs.google.com/javax/print/attribute/standard/PrinterResolution.html)            Class PrinterResolution is a printing attribute class that specifies an exact resolution supported by a printer or to be used for a print job. |
| class | [**PrinterState**](http://docs.google.com/javax/print/attribute/standard/PrinterState.html)            Class PrinterState is a printing attribute class, an enumeration, that identifies the current state of a printer. |
| class | [**PrinterStateReason**](http://docs.google.com/javax/print/attribute/standard/PrinterStateReason.html)            Class PrinterStateReason is a printing attribute class, an enumeration, that provides additional information about the printer's current state, i.e., information that augments the value of the printer's [PrinterState](http://docs.google.com/javax/print/attribute/standard/PrinterState.html) attribute. |
| class | [**PrinterStateReasons**](http://docs.google.com/javax/print/attribute/standard/PrinterStateReasons.html)            Class PrinterStateReasons is a printing attribute class, a set of enumeration values, that provides additional information about the printer's current state, i.e., information that augments the value of the printer's [PrinterState](http://docs.google.com/javax/print/attribute/standard/PrinterState.html) attribute. |
| class | [**PrinterURI**](http://docs.google.com/javax/print/attribute/standard/PrinterURI.html)            Class PrinterURI is a printing attribute class, a URI, that specifies the globally unique name of a printer. |
| class | [**PrintQuality**](http://docs.google.com/javax/print/attribute/standard/PrintQuality.html)            Class PrintQuality is a printing attribute class, an enumeration, that specifies the print quality that the printer uses for the job. |
| class | [**QueuedJobCount**](http://docs.google.com/javax/print/attribute/standard/QueuedJobCount.html)            Class QueuedJobCount is an integer valued printing attribute that indicates the number of jobs in the printer whose [JobState](http://docs.google.com/javax/print/attribute/standard/JobState.html) is either PENDING, PENDING\_HELD, PROCESSING, or PROCESSING\_STOPPED. |
| class | [**ReferenceUriSchemesSupported**](http://docs.google.com/javax/print/attribute/standard/ReferenceUriSchemesSupported.html)            Class ReferenceUriSchemesSupported is a printing attribute class an enumeration, that indicates a "URI scheme," such as "http:" or "ftp:", that a printer can use to retrieve print data stored at a URI location. |
| class | [**RequestingUserName**](http://docs.google.com/javax/print/attribute/standard/RequestingUserName.html)            Class RequestingUserName is a printing attribute class, a text attribute, that specifies the name of the end user that submitted the print job. |
| class | [**Severity**](http://docs.google.com/javax/print/attribute/standard/Severity.html)            Class Severity is a printing attribute class, an enumeration, that denotes the severity of a [PrinterStateReason](http://docs.google.com/javax/print/attribute/standard/PrinterStateReason.html) attribute. |
| class | [**SheetCollate**](http://docs.google.com/javax/print/attribute/standard/SheetCollate.html)            Class SheetCollate is a printing attribute class, an enumeration, that specifies whether or not the media sheets of each copy of each printed document in a job are to be in sequence, when multiple copies of the document are specified by the [Copies](http://docs.google.com/javax/print/attribute/standard/Copies.html) attribute. |
| class | [**Sides**](http://docs.google.com/javax/print/attribute/standard/Sides.html)            Class Sides is a printing attribute class, an enumeration, that specifies how print-stream pages are to be imposed upon the sides of an instance of a selected medium, i.e., an impression. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.print.event](http://docs.google.com/javax/print/event/package-summary.html) | |
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| Classes in [javax.print.event](http://docs.google.com/javax/print/event/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**PrintEvent**](http://docs.google.com/javax/print/event/PrintEvent.html)            Class PrintEvent is the super class of all Print Service API events. |
| class | [**PrintJobAttributeEvent**](http://docs.google.com/javax/print/event/PrintJobAttributeEvent.html)            Class PrintJobAttributeEvent encapsulates an event a PrintService reports to let the client know that one or more printing attributes for a PrintJob have changed. |
| class | [**PrintJobEvent**](http://docs.google.com/javax/print/event/PrintJobEvent.html)            Class PrintJobEvent encapsulates common events a print job reports to let a listener know of progress in the processing of the [DocPrintJob](http://docs.google.com/javax/print/DocPrintJob.html). |
| class | [**PrintServiceAttributeEvent**](http://docs.google.com/javax/print/event/PrintServiceAttributeEvent.html)            Class PrintServiceAttributeEvent encapsulates an event a Print Service instance reports to let the client know of changes in the print service state. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.rmi.CORBA](http://docs.google.com/javax/rmi/CORBA/package-summary.html) | |
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| Classes in [javax.rmi.CORBA](http://docs.google.com/javax/rmi/CORBA/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**ClassDesc**](http://docs.google.com/javax/rmi/CORBA/ClassDesc.html)            This class is used to marshal java.lang.Class objects over IIOP. |
| class | [**Stub**](http://docs.google.com/javax/rmi/CORBA/Stub.html)            Base class from which all RMI-IIOP stubs must inherit. |

| Methods in [javax.rmi.CORBA](http://docs.google.com/javax/rmi/CORBA/package-summary.html) that return [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **ValueHandler.**[**readValue**](http://docs.google.com/javax/rmi/CORBA/ValueHandler.html#readValue(org.omg.CORBA.portable.InputStream,%20int,%20java.lang.Class,%20java.lang.String,%20org.omg.SendingContext.RunTime))([InputStream](http://docs.google.com/org/omg/CORBA/portable/InputStream.html) in, int offset, [Class](http://docs.google.com/java/lang/Class.html) clz, [String](http://docs.google.com/java/lang/String.html) repositoryID, [RunTime](http://docs.google.com/org/omg/SendingContext/RunTime.html) sender)            Reads a value from the stream using Java semantics. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **ValueHandler.**[**writeReplace**](http://docs.google.com/javax/rmi/CORBA/ValueHandler.html#writeReplace(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            If the value contains a writeReplace method then the result is returned. |

| Methods in [javax.rmi.CORBA](http://docs.google.com/javax/rmi/CORBA/package-summary.html) with parameters of type [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **ValueHandler.**[**writeReplace**](http://docs.google.com/javax/rmi/CORBA/ValueHandler.html#writeReplace(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            If the value contains a writeReplace method then the result is returned. |
| void | **ValueHandler.**[**writeValue**](http://docs.google.com/javax/rmi/CORBA/ValueHandler.html#writeValue(org.omg.CORBA.portable.OutputStream,%20java.io.Serializable))([OutputStream](http://docs.google.com/org/omg/CORBA/portable/OutputStream.html) out, [Serializable](http://docs.google.com/java/io/Serializable.html) value)            Writes a value to the stream using Java semantics. |
| void | **ValueHandlerMultiFormat.**[**writeValue**](http://docs.google.com/javax/rmi/CORBA/ValueHandlerMultiFormat.html#writeValue(org.omg.CORBA.portable.OutputStream,%20java.io.Serializable,%20byte))([OutputStream](http://docs.google.com/org/omg/CORBA/portable/OutputStream.html) out, [Serializable](http://docs.google.com/java/io/Serializable.html) value, byte streamFormatVersion)            Allows the ORB to pass the stream format version for RMI/IDL custom value types. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.rmi.ssl](http://docs.google.com/javax/rmi/ssl/package-summary.html) | |
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| Classes in [javax.rmi.ssl](http://docs.google.com/javax/rmi/ssl/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**SslRMIClientSocketFactory**](http://docs.google.com/javax/rmi/ssl/SslRMIClientSocketFactory.html)            An SslRMIClientSocketFactory instance is used by the RMI runtime in order to obtain client sockets for RMI calls via SSL. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.script](http://docs.google.com/javax/script/package-summary.html) | |
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| Classes in [javax.script](http://docs.google.com/javax/script/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**ScriptException**](http://docs.google.com/javax/script/ScriptException.html)            The generic Exception class for the Scripting APIs. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.security.auth](http://docs.google.com/javax/security/auth/package-summary.html) | |
| --- | --- |

| Classes in [javax.security.auth](http://docs.google.com/javax/security/auth/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AuthPermission**](http://docs.google.com/javax/security/auth/AuthPermission.html)            This class is for authentication permissions. |
| class | [**DestroyFailedException**](http://docs.google.com/javax/security/auth/DestroyFailedException.html)            Signals that a destroy operation failed. |
| class | [**PrivateCredentialPermission**](http://docs.google.com/javax/security/auth/PrivateCredentialPermission.html)            This class is used to protect access to private Credentials belonging to a particular Subject. |
| class | [**RefreshFailedException**](http://docs.google.com/javax/security/auth/RefreshFailedException.html)            Signals that a refresh operation failed. |
| class | [**Subject**](http://docs.google.com/javax/security/auth/Subject.html)             A Subject represents a grouping of related information for a single entity, such as a person. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.security.auth.callback](http://docs.google.com/javax/security/auth/callback/package-summary.html) | |
| --- | --- |

| Classes in [javax.security.auth.callback](http://docs.google.com/javax/security/auth/callback/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**ChoiceCallback**](http://docs.google.com/javax/security/auth/callback/ChoiceCallback.html)             Underlying security services instantiate and pass a ChoiceCallback to the handle method of a CallbackHandler to display a list of choices and to retrieve the selected choice(s). |
| class | [**ConfirmationCallback**](http://docs.google.com/javax/security/auth/callback/ConfirmationCallback.html)             Underlying security services instantiate and pass a ConfirmationCallback to the handle method of a CallbackHandler to ask for YES/NO, OK/CANCEL, YES/NO/CANCEL or other similar confirmations. |
| class | [**LanguageCallback**](http://docs.google.com/javax/security/auth/callback/LanguageCallback.html)             Underlying security services instantiate and pass a LanguageCallback to the handle method of a CallbackHandler to retrieve the Locale used for localizing text. |
| class | [**NameCallback**](http://docs.google.com/javax/security/auth/callback/NameCallback.html)             Underlying security services instantiate and pass a NameCallback to the handle method of a CallbackHandler to retrieve name information. |
| class | [**PasswordCallback**](http://docs.google.com/javax/security/auth/callback/PasswordCallback.html)             Underlying security services instantiate and pass a PasswordCallback to the handle method of a CallbackHandler to retrieve password information. |
| class | [**TextInputCallback**](http://docs.google.com/javax/security/auth/callback/TextInputCallback.html)             Underlying security services instantiate and pass a TextInputCallback to the handle method of a CallbackHandler to retrieve generic text information. |
| class | [**TextOutputCallback**](http://docs.google.com/javax/security/auth/callback/TextOutputCallback.html)             Underlying security services instantiate and pass a TextOutputCallback to the handle method of a CallbackHandler to display information messages, warning messages and error messages. |
| class | [**UnsupportedCallbackException**](http://docs.google.com/javax/security/auth/callback/UnsupportedCallbackException.html)            Signals that a CallbackHandler does not recognize a particular Callback. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.security.auth.kerberos](http://docs.google.com/javax/security/auth/kerberos/package-summary.html) | |
| --- | --- |

| Classes in [javax.security.auth.kerberos](http://docs.google.com/javax/security/auth/kerberos/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**DelegationPermission**](http://docs.google.com/javax/security/auth/kerberos/DelegationPermission.html)            This class is used to restrict the usage of the Kerberos delegation model, ie: forwardable and proxiable tickets. |
| class | [**KerberosKey**](http://docs.google.com/javax/security/auth/kerberos/KerberosKey.html)            This class encapsulates a long term secret key for a Kerberos principal. |
| class | [**KerberosPrincipal**](http://docs.google.com/javax/security/auth/kerberos/KerberosPrincipal.html)            This class encapsulates a Kerberos principal. |
| class | [**KerberosTicket**](http://docs.google.com/javax/security/auth/kerberos/KerberosTicket.html)            This class encapsulates a Kerberos ticket and associated information as viewed from the client's point of view. |
| class | [**ServicePermission**](http://docs.google.com/javax/security/auth/kerberos/ServicePermission.html)            This class is used to protect Kerberos services and the credentials necessary to access those services. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.security.auth.login](http://docs.google.com/javax/security/auth/login/package-summary.html) | |
| --- | --- |

| Classes in [javax.security.auth.login](http://docs.google.com/javax/security/auth/login/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AccountException**](http://docs.google.com/javax/security/auth/login/AccountException.html)            A generic account exception. |
| class | [**AccountExpiredException**](http://docs.google.com/javax/security/auth/login/AccountExpiredException.html)            Signals that a user account has expired. |
| class | [**AccountLockedException**](http://docs.google.com/javax/security/auth/login/AccountLockedException.html)            Signals that an account was locked. |
| class | [**AccountNotFoundException**](http://docs.google.com/javax/security/auth/login/AccountNotFoundException.html)            Signals that an account was not found. |
| class | [**CredentialException**](http://docs.google.com/javax/security/auth/login/CredentialException.html)            A generic credential exception. |
| class | [**CredentialExpiredException**](http://docs.google.com/javax/security/auth/login/CredentialExpiredException.html)            Signals that a Credential has expired. |
| class | [**CredentialNotFoundException**](http://docs.google.com/javax/security/auth/login/CredentialNotFoundException.html)            Signals that a credential was not found. |
| class | [**FailedLoginException**](http://docs.google.com/javax/security/auth/login/FailedLoginException.html)            Signals that user authentication failed. |
| class | [**LoginException**](http://docs.google.com/javax/security/auth/login/LoginException.html)            This is the basic login exception. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.security.auth.x500](http://docs.google.com/javax/security/auth/x500/package-summary.html) | |
| --- | --- |

| Classes in [javax.security.auth.x500](http://docs.google.com/javax/security/auth/x500/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**X500Principal**](http://docs.google.com/javax/security/auth/x500/X500Principal.html)             This class represents an X.500 Principal. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.security.sasl](http://docs.google.com/javax/security/sasl/package-summary.html) | |
| --- | --- |

| Classes in [javax.security.sasl](http://docs.google.com/javax/security/sasl/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AuthorizeCallback**](http://docs.google.com/javax/security/sasl/AuthorizeCallback.html)            This callback is used by SaslServer to determine whether one entity (identified by an authenticated authentication id) can act on behalf of another entity (identified by an authorization id). |
| class | [**RealmCallback**](http://docs.google.com/javax/security/sasl/RealmCallback.html)            This callback is used by SaslClient and SaslServer to retrieve realm information. |
| class | [**RealmChoiceCallback**](http://docs.google.com/javax/security/sasl/RealmChoiceCallback.html)            This callback is used by SaslClient and SaslServer to obtain a realm given a list of realm choices. |
| class | [**SaslException**](http://docs.google.com/javax/security/sasl/SaslException.html)            This class represents an error that has occurred when using SASL. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.sound.midi](http://docs.google.com/javax/sound/midi/package-summary.html) | |
| --- | --- |

| Classes in [javax.sound.midi](http://docs.google.com/javax/sound/midi/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**InvalidMidiDataException**](http://docs.google.com/javax/sound/midi/InvalidMidiDataException.html)            An InvalidMidiDataException indicates that inappropriate MIDI data was encountered. |
| class | [**MidiUnavailableException**](http://docs.google.com/javax/sound/midi/MidiUnavailableException.html)            A MidiUnavailableException is thrown when a requested MIDI component cannot be opened or created because it is unavailable. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.sound.sampled](http://docs.google.com/javax/sound/sampled/package-summary.html) | |
| --- | --- |

| Classes in [javax.sound.sampled](http://docs.google.com/javax/sound/sampled/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AudioPermission**](http://docs.google.com/javax/sound/sampled/AudioPermission.html)            The AudioPermission class represents access rights to the audio system resources. |
| class | [**LineEvent**](http://docs.google.com/javax/sound/sampled/LineEvent.html)            The LineEvent class encapsulates information that a line sends its listeners whenever the line opens, closes, starts, or stops. |
| class | [**LineUnavailableException**](http://docs.google.com/javax/sound/sampled/LineUnavailableException.html)            A LineUnavailableException is an exception indicating that a line cannot be opened because it is unavailable. |
| class | [**UnsupportedAudioFileException**](http://docs.google.com/javax/sound/sampled/UnsupportedAudioFileException.html)            An UnsupportedAudioFileException is an exception indicating that an operation failed because a file did not contain valid data of a recognized file type and format. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.sql](http://docs.google.com/javax/sql/package-summary.html) | |
| --- | --- |

| Classes in [javax.sql](http://docs.google.com/javax/sql/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**ConnectionEvent**](http://docs.google.com/javax/sql/ConnectionEvent.html)            An Event object that provides information about the source of a connection-related event. |
| class | [**RowSetEvent**](http://docs.google.com/javax/sql/RowSetEvent.html)            An Event object generated when an event occurs to a RowSet object. |
| class | [**StatementEvent**](http://docs.google.com/javax/sql/StatementEvent.html)            A StatementEvent is sent to all StatementEventListeners which were registered with a PooledConnection. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.sql.rowset](http://docs.google.com/javax/sql/rowset/package-summary.html) | |
| --- | --- |

| Classes in [javax.sql.rowset](http://docs.google.com/javax/sql/rowset/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**BaseRowSet**](http://docs.google.com/javax/sql/rowset/BaseRowSet.html)            An abstract class providing a RowSet object with its basic functionality. |
| class | [**RowSetMetaDataImpl**](http://docs.google.com/javax/sql/rowset/RowSetMetaDataImpl.html)            Provides implementations for the methods that set and get metadata information about a RowSet object's columns. |
| class | [**RowSetWarning**](http://docs.google.com/javax/sql/rowset/RowSetWarning.html)            An extension of SQLException that provides information about database warnings set on RowSet objects. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.sql.rowset.serial](http://docs.google.com/javax/sql/rowset/serial/package-summary.html) | |
| --- | --- |

| Classes in [javax.sql.rowset.serial](http://docs.google.com/javax/sql/rowset/serial/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**SerialArray**](http://docs.google.com/javax/sql/rowset/serial/SerialArray.html)            A serialized version of an Array object, which is the mapping in the Java programming language of an SQL ARRAY value. |
| class | [**SerialBlob**](http://docs.google.com/javax/sql/rowset/serial/SerialBlob.html)            A serialized mapping in the Java programming language of an SQL BLOB value. |
| class | [**SerialClob**](http://docs.google.com/javax/sql/rowset/serial/SerialClob.html)            A serialized mapping in the Java programming language of an SQL CLOB value. |
| class | [**SerialDatalink**](http://docs.google.com/javax/sql/rowset/serial/SerialDatalink.html)            A serialized mapping in the Java programming language of an SQL DATALINK value. |
| class | [**SerialException**](http://docs.google.com/javax/sql/rowset/serial/SerialException.html)            Indicates and an error with the serialization or de-serialization of SQL types such as BLOB, CLOB, STRUCT or ARRAY in addition to SQL types such as DATALINK and JAVAOBJECT |
| class | [**SerialJavaObject**](http://docs.google.com/javax/sql/rowset/serial/SerialJavaObject.html)            A serializable mapping in the Java programming language of an SQL JAVA\_OBJECT value. |
| class | [**SerialRef**](http://docs.google.com/javax/sql/rowset/serial/SerialRef.html)            A serialized mapping of a Ref object, which is the mapping in the Java programming language of an SQL REF value. |
| class | [**SerialStruct**](http://docs.google.com/javax/sql/rowset/serial/SerialStruct.html)            A serialized mapping in the Java programming language of an SQL structured type. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.sql.rowset.spi](http://docs.google.com/javax/sql/rowset/spi/package-summary.html) | |
| --- | --- |

| Classes in [javax.sql.rowset.spi](http://docs.google.com/javax/sql/rowset/spi/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**SyncFactoryException**](http://docs.google.com/javax/sql/rowset/spi/SyncFactoryException.html)            Indicates an error with SyncFactory mechanism. |
| class | [**SyncProviderException**](http://docs.google.com/javax/sql/rowset/spi/SyncProviderException.html)            Indicates an error with the SyncProvider mechanism. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing](http://docs.google.com/javax/swing/package-summary.html) | |
| --- | --- |

| Classes in [javax.swing](http://docs.google.com/javax/swing/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AbstractAction**](http://docs.google.com/javax/swing/AbstractAction.html)            This class provides default implementations for the JFC Action interface. |
| class | [**AbstractButton**](http://docs.google.com/javax/swing/AbstractButton.html)            Defines common behaviors for buttons and menu items. |
| protected  class | [**AbstractButton.AccessibleAbstractButton**](http://docs.google.com/javax/swing/AbstractButton.AccessibleAbstractButton.html)            This class implements accessibility support for the AbstractButton class. |
| protected  class | [**AbstractButton.ButtonChangeListener**](http://docs.google.com/javax/swing/AbstractButton.ButtonChangeListener.html)            Extends ChangeListener to be serializable. |
| class | [**AbstractCellEditor**](http://docs.google.com/javax/swing/AbstractCellEditor.html) |
| class | [**AbstractListModel**](http://docs.google.com/javax/swing/AbstractListModel.html)            The abstract definition for the data model that provides a List with its contents. |
| class | [**ActionMap**](http://docs.google.com/javax/swing/ActionMap.html)            ActionMap provides mappings from Objects (called *keys* or *Action names*) to Actions. |
| class | [**Box**](http://docs.google.com/javax/swing/Box.html)            A lightweight container that uses a BoxLayout object as its layout manager. |
| protected  class | [**Box.AccessibleBox**](http://docs.google.com/javax/swing/Box.AccessibleBox.html)            This class implements accessibility support for the Box class. |
| static class | [**Box.Filler**](http://docs.google.com/javax/swing/Box.Filler.html)            An implementation of a lightweight component that participates in layout but has no view. |
| protected  class | [**Box.Filler.AccessibleBoxFiller**](http://docs.google.com/javax/swing/Box.Filler.AccessibleBoxFiller.html)            This class implements accessibility support for the Box.Filler class. |
| class | [**BoxLayout**](http://docs.google.com/javax/swing/BoxLayout.html)            A layout manager that allows multiple components to be laid out either vertically or horizontally. |
| class | [**ButtonGroup**](http://docs.google.com/javax/swing/ButtonGroup.html)            This class is used to create a multiple-exclusion scope for a set of buttons. |
| class | [**CellRendererPane**](http://docs.google.com/javax/swing/CellRendererPane.html)            This class is inserted in between cell renderers and the components that use them. |
| protected  class | [**CellRendererPane.AccessibleCellRendererPane**](http://docs.google.com/javax/swing/CellRendererPane.AccessibleCellRendererPane.html)            This class implements accessibility support for the CellRendererPane class. |
| class | [**ComponentInputMap**](http://docs.google.com/javax/swing/ComponentInputMap.html)            A ComponentInputMap is an InputMap associated with a particular JComponent. |
| class | [**DefaultBoundedRangeModel**](http://docs.google.com/javax/swing/DefaultBoundedRangeModel.html)            A generic implementation of BoundedRangeModel. |
| class | [**DefaultButtonModel**](http://docs.google.com/javax/swing/DefaultButtonModel.html)            The default implementation of a Button component's data model. |
| class | [**DefaultCellEditor**](http://docs.google.com/javax/swing/DefaultCellEditor.html)            The default editor for table and tree cells. |
| protected  class | [**DefaultCellEditor.EditorDelegate**](http://docs.google.com/javax/swing/DefaultCellEditor.EditorDelegate.html)            The protected EditorDelegate class. |
| class | [**DefaultComboBoxModel**](http://docs.google.com/javax/swing/DefaultComboBoxModel.html)            The default model for combo boxes. |
| class | [**DefaultDesktopManager**](http://docs.google.com/javax/swing/DefaultDesktopManager.html)            This is an implementation of the DesktopManager. |
| class | [**DefaultListCellRenderer**](http://docs.google.com/javax/swing/DefaultListCellRenderer.html)            Renders an item in a list. |
| static class | [**DefaultListCellRenderer.UIResource**](http://docs.google.com/javax/swing/DefaultListCellRenderer.UIResource.html)            A subclass of DefaultListCellRenderer that implements UIResource. |
| class | [**DefaultListModel**](http://docs.google.com/javax/swing/DefaultListModel.html)            This class loosely implements the java.util.Vector API, in that it implements the 1.1.x version of java.util.Vector, has no collection class support, and notifies the ListDataListeners when changes occur. |
| class | [**DefaultListSelectionModel**](http://docs.google.com/javax/swing/DefaultListSelectionModel.html)            Default data model for list selections. |
| class | [**DefaultSingleSelectionModel**](http://docs.google.com/javax/swing/DefaultSingleSelectionModel.html)            A generic implementation of SingleSelectionModel. |
| class | [**DropMode**](http://docs.google.com/javax/swing/DropMode.html)            Drop modes, used to determine the method by which a component tracks and indicates a drop location during drag and drop. |
| static class | [**GroupLayout.Alignment**](http://docs.google.com/javax/swing/GroupLayout.Alignment.html)            Enumeration of the possible ways ParallelGroup can align its children. |
| class | [**ImageIcon**](http://docs.google.com/javax/swing/ImageIcon.html)            An implementation of the Icon interface that paints Icons from Images. |
| protected  class | [**ImageIcon.AccessibleImageIcon**](http://docs.google.com/javax/swing/ImageIcon.AccessibleImageIcon.html)            This class implements accessibility support for the ImageIcon class. |
| class | [**InputMap**](http://docs.google.com/javax/swing/InputMap.html)            InputMap provides a binding between an input event (currently only KeyStrokes are used) and an Object. |
| class | [**JApplet**](http://docs.google.com/javax/swing/JApplet.html)            An extended version of java.applet.Applet that adds support for the JFC/Swing component architecture. |
| protected  class | [**JApplet.AccessibleJApplet**](http://docs.google.com/javax/swing/JApplet.AccessibleJApplet.html)            This class implements accessibility support for the JApplet class. |
| class | [**JButton**](http://docs.google.com/javax/swing/JButton.html)            An implementation of a "push" button. |
| protected  class | [**JButton.AccessibleJButton**](http://docs.google.com/javax/swing/JButton.AccessibleJButton.html)            This class implements accessibility support for the JButton class. |
| class | [**JCheckBox**](http://docs.google.com/javax/swing/JCheckBox.html)            An implementation of a check box -- an item that can be selected or deselected, and which displays its state to the user. |
| protected  class | [**JCheckBox.AccessibleJCheckBox**](http://docs.google.com/javax/swing/JCheckBox.AccessibleJCheckBox.html)            This class implements accessibility support for the JCheckBox class. |
| class | [**JCheckBoxMenuItem**](http://docs.google.com/javax/swing/JCheckBoxMenuItem.html)            A menu item that can be selected or deselected. |
| protected  class | [**JCheckBoxMenuItem.AccessibleJCheckBoxMenuItem**](http://docs.google.com/javax/swing/JCheckBoxMenuItem.AccessibleJCheckBoxMenuItem.html)            This class implements accessibility support for the JCheckBoxMenuItem class. |
| class | [**JColorChooser**](http://docs.google.com/javax/swing/JColorChooser.html)            JColorChooser provides a pane of controls designed to allow a user to manipulate and select a color. |
| protected  class | [**JColorChooser.AccessibleJColorChooser**](http://docs.google.com/javax/swing/JColorChooser.AccessibleJColorChooser.html)            This class implements accessibility support for the JColorChooser class. |
| class | [**JComboBox**](http://docs.google.com/javax/swing/JComboBox.html)            A component that combines a button or editable field and a drop-down list. |
| protected  class | [**JComboBox.AccessibleJComboBox**](http://docs.google.com/javax/swing/JComboBox.AccessibleJComboBox.html)            This class implements accessibility support for the JComboBox class. |
| class | [**JComponent**](http://docs.google.com/javax/swing/JComponent.html)            The base class for all Swing components except top-level containers. |
| class | [**JComponent.AccessibleJComponent**](http://docs.google.com/javax/swing/JComponent.AccessibleJComponent.html)            Inner class of JComponent used to provide default support for accessibility. |
| class | [**JDesktopPane**](http://docs.google.com/javax/swing/JDesktopPane.html)            A container used to create a multiple-document interface or a virtual desktop. |
| protected  class | [**JDesktopPane.AccessibleJDesktopPane**](http://docs.google.com/javax/swing/JDesktopPane.AccessibleJDesktopPane.html)            This class implements accessibility support for the JDesktopPane class. |
| class | [**JDialog**](http://docs.google.com/javax/swing/JDialog.html)            The main class for creating a dialog window. |
| protected  class | [**JDialog.AccessibleJDialog**](http://docs.google.com/javax/swing/JDialog.AccessibleJDialog.html)            This class implements accessibility support for the JDialog class. |
| class | [**JEditorPane**](http://docs.google.com/javax/swing/JEditorPane.html)            A text component to edit various kinds of content. |
| protected  class | [**JEditorPane.AccessibleJEditorPane**](http://docs.google.com/javax/swing/JEditorPane.AccessibleJEditorPane.html)            This class implements accessibility support for the JEditorPane class. |
| protected  class | [**JEditorPane.AccessibleJEditorPaneHTML**](http://docs.google.com/javax/swing/JEditorPane.AccessibleJEditorPaneHTML.html)            This class provides support for AccessibleHypertext, and is used in instances where the EditorKit installed in this JEditorPane is an instance of HTMLEditorKit. |
| protected  class | [**JEditorPane.JEditorPaneAccessibleHypertextSupport**](http://docs.google.com/javax/swing/JEditorPane.JEditorPaneAccessibleHypertextSupport.html)            What's returned by AccessibleJEditorPaneHTML.getAccessibleText. |
| class | [**JFileChooser**](http://docs.google.com/javax/swing/JFileChooser.html)            JFileChooser provides a simple mechanism for the user to choose a file. |
| protected  class | [**JFileChooser.AccessibleJFileChooser**](http://docs.google.com/javax/swing/JFileChooser.AccessibleJFileChooser.html)            This class implements accessibility support for the JFileChooser class. |
| class | [**JFormattedTextField**](http://docs.google.com/javax/swing/JFormattedTextField.html)            JFormattedTextField extends JTextField adding support for formatting arbitrary values, as well as retrieving a particular object once the user has edited the text. |
| static class | [**JFormattedTextField.AbstractFormatter**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html)            Instances of AbstractFormatter are used by JFormattedTextField to handle the conversion both from an Object to a String, and back from a String to an Object. |
| class | [**JFrame**](http://docs.google.com/javax/swing/JFrame.html)            An extended version of java.awt.Frame that adds support for the JFC/Swing component architecture. |
| protected  class | [**JFrame.AccessibleJFrame**](http://docs.google.com/javax/swing/JFrame.AccessibleJFrame.html)            This class implements accessibility support for the JFrame class. |
| class | [**JInternalFrame**](http://docs.google.com/javax/swing/JInternalFrame.html)            A lightweight object that provides many of the features of a native frame, including dragging, closing, becoming an icon, resizing, title display, and support for a menu bar. |
| protected  class | [**JInternalFrame.AccessibleJInternalFrame**](http://docs.google.com/javax/swing/JInternalFrame.AccessibleJInternalFrame.html)            This class implements accessibility support for the JInternalFrame class. |
| static class | [**JInternalFrame.JDesktopIcon**](http://docs.google.com/javax/swing/JInternalFrame.JDesktopIcon.html)            This component represents an iconified version of a JInternalFrame. |
| protected  class | [**JInternalFrame.JDesktopIcon.AccessibleJDesktopIcon**](http://docs.google.com/javax/swing/JInternalFrame.JDesktopIcon.AccessibleJDesktopIcon.html)            This class implements accessibility support for the JInternalFrame.JDesktopIcon class. |
| class | [**JLabel**](http://docs.google.com/javax/swing/JLabel.html)            A display area for a short text string or an image, or both. |
| protected  class | [**JLabel.AccessibleJLabel**](http://docs.google.com/javax/swing/JLabel.AccessibleJLabel.html)            The class used to obtain the accessible role for this object. |
| class | [**JLayeredPane**](http://docs.google.com/javax/swing/JLayeredPane.html)            JLayeredPane adds depth to a JFC/Swing container, allowing components to overlap each other when needed. |
| protected  class | [**JLayeredPane.AccessibleJLayeredPane**](http://docs.google.com/javax/swing/JLayeredPane.AccessibleJLayeredPane.html)            This class implements accessibility support for the JLayeredPane class. |
| class | [**JList**](http://docs.google.com/javax/swing/JList.html)            A component that displays a list of objects and allows the user to select one or more items. |
| protected  class | [**JList.AccessibleJList**](http://docs.google.com/javax/swing/JList.AccessibleJList.html)            This class implements accessibility support for the JList class. |
| class | [**JMenu**](http://docs.google.com/javax/swing/JMenu.html)            An implementation of a menu -- a popup window containing JMenuItems that is displayed when the user selects an item on the JMenuBar. |
| protected  class | [**JMenu.AccessibleJMenu**](http://docs.google.com/javax/swing/JMenu.AccessibleJMenu.html)            This class implements accessibility support for the JMenu class. |
| protected  class | [**JMenu.WinListener**](http://docs.google.com/javax/swing/JMenu.WinListener.html)            A listener class that watches for a popup window closing. |
| class | [**JMenuBar**](http://docs.google.com/javax/swing/JMenuBar.html)            An implementation of a menu bar. |
| protected  class | [**JMenuBar.AccessibleJMenuBar**](http://docs.google.com/javax/swing/JMenuBar.AccessibleJMenuBar.html)            This class implements accessibility support for the JMenuBar class. |
| class | [**JMenuItem**](http://docs.google.com/javax/swing/JMenuItem.html)            An implementation of an item in a menu. |
| protected  class | [**JMenuItem.AccessibleJMenuItem**](http://docs.google.com/javax/swing/JMenuItem.AccessibleJMenuItem.html)            This class implements accessibility support for the JMenuItem class. |
| class | [**JOptionPane**](http://docs.google.com/javax/swing/JOptionPane.html)            JOptionPane makes it easy to pop up a standard dialog box that prompts users for a value or informs them of something. |
| protected  class | [**JOptionPane.AccessibleJOptionPane**](http://docs.google.com/javax/swing/JOptionPane.AccessibleJOptionPane.html)            This class implements accessibility support for the JOptionPane class. |
| class | [**JPanel**](http://docs.google.com/javax/swing/JPanel.html)            JPanel is a generic lightweight container. |
| protected  class | [**JPanel.AccessibleJPanel**](http://docs.google.com/javax/swing/JPanel.AccessibleJPanel.html)            This class implements accessibility support for the JPanel class. |
| class | [**JPasswordField**](http://docs.google.com/javax/swing/JPasswordField.html)            JPasswordField is a lightweight component that allows the editing of a single line of text where the view indicates something was typed, but does not show the original characters. |
| protected  class | [**JPasswordField.AccessibleJPasswordField**](http://docs.google.com/javax/swing/JPasswordField.AccessibleJPasswordField.html)            This class implements accessibility support for the JPasswordField class. |
| class | [**JPopupMenu**](http://docs.google.com/javax/swing/JPopupMenu.html)            An implementation of a popup menu -- a small window that pops up and displays a series of choices. |
| protected  class | [**JPopupMenu.AccessibleJPopupMenu**](http://docs.google.com/javax/swing/JPopupMenu.AccessibleJPopupMenu.html)            This class implements accessibility support for the JPopupMenu class. |
| static class | [**JPopupMenu.Separator**](http://docs.google.com/javax/swing/JPopupMenu.Separator.html)            A popup menu-specific separator. |
| class | [**JProgressBar**](http://docs.google.com/javax/swing/JProgressBar.html)            A component that visually displays the progress of some task. |
| protected  class | [**JProgressBar.AccessibleJProgressBar**](http://docs.google.com/javax/swing/JProgressBar.AccessibleJProgressBar.html)            This class implements accessibility support for the JProgressBar class. |
| class | [**JRadioButton**](http://docs.google.com/javax/swing/JRadioButton.html)            An implementation of a radio button -- an item that can be selected or deselected, and which displays its state to the user. |
| protected  class | [**JRadioButton.AccessibleJRadioButton**](http://docs.google.com/javax/swing/JRadioButton.AccessibleJRadioButton.html)            This class implements accessibility support for the JRadioButton class. |
| class | [**JRadioButtonMenuItem**](http://docs.google.com/javax/swing/JRadioButtonMenuItem.html)            An implementation of a radio button menu item. |
| protected  class | [**JRadioButtonMenuItem.AccessibleJRadioButtonMenuItem**](http://docs.google.com/javax/swing/JRadioButtonMenuItem.AccessibleJRadioButtonMenuItem.html)            This class implements accessibility support for the JRadioButtonMenuItem class. |
| class | [**JRootPane**](http://docs.google.com/javax/swing/JRootPane.html)            A lightweight container used behind the scenes by JFrame, JDialog, JWindow, JApplet, and JInternalFrame. |
| protected  class | [**JRootPane.AccessibleJRootPane**](http://docs.google.com/javax/swing/JRootPane.AccessibleJRootPane.html)            This class implements accessibility support for the JRootPane class. |
| protected  class | [**JRootPane.RootLayout**](http://docs.google.com/javax/swing/JRootPane.RootLayout.html)            A custom layout manager that is responsible for the layout of layeredPane, glassPane, and menuBar. |
| class | [**JScrollBar**](http://docs.google.com/javax/swing/JScrollBar.html)            An implementation of a scrollbar. |
| protected  class | [**JScrollBar.AccessibleJScrollBar**](http://docs.google.com/javax/swing/JScrollBar.AccessibleJScrollBar.html)            This class implements accessibility support for the JScrollBar class. |
| class | [**JScrollPane**](http://docs.google.com/javax/swing/JScrollPane.html)            Provides a scrollable view of a lightweight component. |
| protected  class | [**JScrollPane.AccessibleJScrollPane**](http://docs.google.com/javax/swing/JScrollPane.AccessibleJScrollPane.html)            This class implements accessibility support for the JScrollPane class. |
| protected  class | [**JScrollPane.ScrollBar**](http://docs.google.com/javax/swing/JScrollPane.ScrollBar.html)            By default JScrollPane creates scrollbars that are instances of this class. |
| class | [**JSeparator**](http://docs.google.com/javax/swing/JSeparator.html)            JSeparator provides a general purpose component for implementing divider lines - most commonly used as a divider between menu items that breaks them up into logical groupings. |
| protected  class | [**JSeparator.AccessibleJSeparator**](http://docs.google.com/javax/swing/JSeparator.AccessibleJSeparator.html)            This class implements accessibility support for the JSeparator class. |
| class | [**JSlider**](http://docs.google.com/javax/swing/JSlider.html)            A component that lets the user graphically select a value by sliding a knob within a bounded interval. |
| protected  class | [**JSlider.AccessibleJSlider**](http://docs.google.com/javax/swing/JSlider.AccessibleJSlider.html)            This class implements accessibility support for the JSlider class. |
| class | [**JSpinner**](http://docs.google.com/javax/swing/JSpinner.html)            A single line input field that lets the user select a number or an object value from an ordered sequence. |
| protected  class | [**JSpinner.AccessibleJSpinner**](http://docs.google.com/javax/swing/JSpinner.AccessibleJSpinner.html)            AccessibleJSpinner implements accessibility support for the JSpinner class. |
| static class | [**JSpinner.DateEditor**](http://docs.google.com/javax/swing/JSpinner.DateEditor.html)            An editor for a JSpinner whose model is a SpinnerDateModel. |
| static class | [**JSpinner.DefaultEditor**](http://docs.google.com/javax/swing/JSpinner.DefaultEditor.html)            A simple base class for more specialized editors that displays a read-only view of the model's current value with a JFormattedTextField. |
| static class | [**JSpinner.ListEditor**](http://docs.google.com/javax/swing/JSpinner.ListEditor.html)            An editor for a JSpinner whose model is a SpinnerListModel. |
| static class | [**JSpinner.NumberEditor**](http://docs.google.com/javax/swing/JSpinner.NumberEditor.html)            An editor for a JSpinner whose model is a SpinnerNumberModel. |
| class | [**JSplitPane**](http://docs.google.com/javax/swing/JSplitPane.html)            JSplitPane is used to divide two (and only two) Components. |
| protected  class | [**JSplitPane.AccessibleJSplitPane**](http://docs.google.com/javax/swing/JSplitPane.AccessibleJSplitPane.html)            This class implements accessibility support for the JSplitPane class. |
| class | [**JTabbedPane**](http://docs.google.com/javax/swing/JTabbedPane.html)            A component that lets the user switch between a group of components by clicking on a tab with a given title and/or icon. |
| protected  class | [**JTabbedPane.AccessibleJTabbedPane**](http://docs.google.com/javax/swing/JTabbedPane.AccessibleJTabbedPane.html)            This class implements accessibility support for the JTabbedPane class. |
| protected  class | [**JTabbedPane.ModelListener**](http://docs.google.com/javax/swing/JTabbedPane.ModelListener.html)            We pass ModelChanged events along to the listeners with the tabbedpane (instead of the model itself) as the event source. |
| class | [**JTable**](http://docs.google.com/javax/swing/JTable.html)            The JTable is used to display and edit regular two-dimensional tables of cells. |
| protected  class | [**JTable.AccessibleJTable**](http://docs.google.com/javax/swing/JTable.AccessibleJTable.html)            This class implements accessibility support for the JTable class. |
| static class | [**JTable.PrintMode**](http://docs.google.com/javax/swing/JTable.PrintMode.html)            Printing modes, used in printing JTables. |
| class | [**JTextArea**](http://docs.google.com/javax/swing/JTextArea.html)            A JTextArea is a multi-line area that displays plain text. |
| protected  class | [**JTextArea.AccessibleJTextArea**](http://docs.google.com/javax/swing/JTextArea.AccessibleJTextArea.html)            This class implements accessibility support for the JTextArea class. |
| class | [**JTextField**](http://docs.google.com/javax/swing/JTextField.html)            JTextField is a lightweight component that allows the editing of a single line of text. |
| protected  class | [**JTextField.AccessibleJTextField**](http://docs.google.com/javax/swing/JTextField.AccessibleJTextField.html)            This class implements accessibility support for the JTextField class. |
| class | [**JTextPane**](http://docs.google.com/javax/swing/JTextPane.html)            A text component that can be marked up with attributes that are represented graphically. |
| class | [**JToggleButton**](http://docs.google.com/javax/swing/JToggleButton.html)            An implementation of a two-state button. |
| protected  class | [**JToggleButton.AccessibleJToggleButton**](http://docs.google.com/javax/swing/JToggleButton.AccessibleJToggleButton.html)            This class implements accessibility support for the JToggleButton class. |
| static class | [**JToggleButton.ToggleButtonModel**](http://docs.google.com/javax/swing/JToggleButton.ToggleButtonModel.html)            The ToggleButton model |
| class | [**JToolBar**](http://docs.google.com/javax/swing/JToolBar.html)            JToolBar provides a component that is useful for displaying commonly used Actions or controls. |
| protected  class | [**JToolBar.AccessibleJToolBar**](http://docs.google.com/javax/swing/JToolBar.AccessibleJToolBar.html)            This class implements accessibility support for the JToolBar class. |
| static class | [**JToolBar.Separator**](http://docs.google.com/javax/swing/JToolBar.Separator.html)            A toolbar-specific separator. |
| class | [**JToolTip**](http://docs.google.com/javax/swing/JToolTip.html)            Used to display a "Tip" for a Component. |
| protected  class | [**JToolTip.AccessibleJToolTip**](http://docs.google.com/javax/swing/JToolTip.AccessibleJToolTip.html)            This class implements accessibility support for the JToolTip class. |
| class | [**JTree**](http://docs.google.com/javax/swing/JTree.html)  A control that displays a set of hierarchical data as an outline. |
| protected  class | [**JTree.AccessibleJTree**](http://docs.google.com/javax/swing/JTree.AccessibleJTree.html)            This class implements accessibility support for the JTree class. |
| static class | [**JTree.DynamicUtilTreeNode**](http://docs.google.com/javax/swing/JTree.DynamicUtilTreeNode.html)            DynamicUtilTreeNode can wrap vectors/hashtables/arrays/strings and create the appropriate children tree nodes as necessary. |
| protected static class | [**JTree.EmptySelectionModel**](http://docs.google.com/javax/swing/JTree.EmptySelectionModel.html)            EmptySelectionModel is a TreeSelectionModel that does not allow anything to be selected. |
| protected  class | [**JTree.TreeSelectionRedirector**](http://docs.google.com/javax/swing/JTree.TreeSelectionRedirector.html)            Handles creating a new TreeSelectionEvent with the JTree as the source and passing it off to all the listeners. |
| class | [**JViewport**](http://docs.google.com/javax/swing/JViewport.html)            The "viewport" or "porthole" through which you see the underlying information. |
| protected  class | [**JViewport.AccessibleJViewport**](http://docs.google.com/javax/swing/JViewport.AccessibleJViewport.html)            This class implements accessibility support for the JViewport class. |
| protected  class | [**JViewport.ViewListener**](http://docs.google.com/javax/swing/JViewport.ViewListener.html)            A listener for the view. |
| class | [**JWindow**](http://docs.google.com/javax/swing/JWindow.html)            A JWindow is a container that can be displayed anywhere on the user's desktop. |
| protected  class | [**JWindow.AccessibleJWindow**](http://docs.google.com/javax/swing/JWindow.AccessibleJWindow.html)            This class implements accessibility support for the JWindow class. |
| class | [**KeyStroke**](http://docs.google.com/javax/swing/KeyStroke.html)            A KeyStroke represents a key action on the keyboard, or equivalent input device. |
| class | [**LayoutFocusTraversalPolicy**](http://docs.google.com/javax/swing/LayoutFocusTraversalPolicy.html)            A SortingFocusTraversalPolicy which sorts Components based on their size, position, and orientation. |
| static class | [**LayoutStyle.ComponentPlacement**](http://docs.google.com/javax/swing/LayoutStyle.ComponentPlacement.html)            ComponentPlacement is an enumeration of the possible ways two components can be placed relative to each other. |
| class | [**OverlayLayout**](http://docs.google.com/javax/swing/OverlayLayout.html)            A layout manager to arrange components over the top of each other. |
| static class | [**RowFilter.ComparisonType**](http://docs.google.com/javax/swing/RowFilter.ComparisonType.html)            Enumeration of the possible comparison values supported by some of the default RowFilters. |
| class | [**ScrollPaneLayout**](http://docs.google.com/javax/swing/ScrollPaneLayout.html)            The layout manager used by JScrollPane. |
| static class | [**ScrollPaneLayout.UIResource**](http://docs.google.com/javax/swing/ScrollPaneLayout.UIResource.html)            The UI resource version of ScrollPaneLayout. |
| class | [**SizeRequirements**](http://docs.google.com/javax/swing/SizeRequirements.html)            For the convenience of layout managers, calculates information about the size and position of components. |
| class | [**SortOrder**](http://docs.google.com/javax/swing/SortOrder.html)            SortOrder is an enumeration of the possible sort orderings. |
| class | [**SpinnerDateModel**](http://docs.google.com/javax/swing/SpinnerDateModel.html)            A SpinnerModel for sequences of Dates. |
| class | [**SpinnerListModel**](http://docs.google.com/javax/swing/SpinnerListModel.html)            A simple implementation of SpinnerModel whose values are defined by an array or a List. |
| class | [**SpinnerNumberModel**](http://docs.google.com/javax/swing/SpinnerNumberModel.html)            A SpinnerModel for sequences of numbers. |
| static class | [**SwingWorker.StateValue**](http://docs.google.com/javax/swing/SwingWorker.StateValue.html)            Values for the state bound property. |
| class | [**Timer**](http://docs.google.com/javax/swing/Timer.html)            Fires one or more ActionEvents at specified intervals. |
| class | [**TransferHandler**](http://docs.google.com/javax/swing/TransferHandler.html)            This class is used to handle the transfer of a Transferable to and from Swing components. |
| class | [**UIDefaults**](http://docs.google.com/javax/swing/UIDefaults.html)            A table of defaults for Swing components. |
| class | [**UIManager**](http://docs.google.com/javax/swing/UIManager.html)            UIManager manages the current look and feel, the set of available look and feels, PropertyChangeListeners that are notified when the look and feel changes, look and feel defaults, and convenience methods for obtaining various default values. |
| class | [**UnsupportedLookAndFeelException**](http://docs.google.com/javax/swing/UnsupportedLookAndFeelException.html)            An exception that indicates the requested look & feel management classes are not present on the user's system. |
| class | [**ViewportLayout**](http://docs.google.com/javax/swing/ViewportLayout.html)            The default layout manager for JViewport. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.border](http://docs.google.com/javax/swing/border/package-summary.html) | |
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| Classes in [javax.swing.border](http://docs.google.com/javax/swing/border/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AbstractBorder**](http://docs.google.com/javax/swing/border/AbstractBorder.html)            A class that implements an empty border with no size. |
| class | [**BevelBorder**](http://docs.google.com/javax/swing/border/BevelBorder.html)            A class which implements a simple two-line bevel border. |
| class | [**CompoundBorder**](http://docs.google.com/javax/swing/border/CompoundBorder.html)            A composite Border class used to compose two Border objects into a single border by nesting an inside Border object within the insets of an outside Border object. |
| class | [**EmptyBorder**](http://docs.google.com/javax/swing/border/EmptyBorder.html)            A class which provides an empty, transparent border which takes up space but does no drawing. |
| class | [**EtchedBorder**](http://docs.google.com/javax/swing/border/EtchedBorder.html)            A class which implements a simple etched border which can either be etched-in or etched-out. |
| class | [**LineBorder**](http://docs.google.com/javax/swing/border/LineBorder.html)            A class which implements a line border of arbitrary thickness and of a single color. |
| class | [**MatteBorder**](http://docs.google.com/javax/swing/border/MatteBorder.html)            A class which provides a matte-like border of either a solid color or a tiled icon. |
| class | [**SoftBevelBorder**](http://docs.google.com/javax/swing/border/SoftBevelBorder.html)            A class which implements a raised or lowered bevel with softened corners. |
| class | [**TitledBorder**](http://docs.google.com/javax/swing/border/TitledBorder.html)            A class which implements an arbitrary border with the addition of a String title in a specified position and justification. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.colorchooser](http://docs.google.com/javax/swing/colorchooser/package-summary.html) | |
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| Classes in [javax.swing.colorchooser](http://docs.google.com/javax/swing/colorchooser/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AbstractColorChooserPanel**](http://docs.google.com/javax/swing/colorchooser/AbstractColorChooserPanel.html)            This is the abstract superclass for color choosers. |
| class | [**DefaultColorSelectionModel**](http://docs.google.com/javax/swing/colorchooser/DefaultColorSelectionModel.html)            A generic implementation of ColorSelectionModel. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.event](http://docs.google.com/javax/swing/event/package-summary.html) | |
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| Classes in [javax.swing.event](http://docs.google.com/javax/swing/event/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AncestorEvent**](http://docs.google.com/javax/swing/event/AncestorEvent.html)            An event reported to a child component that originated from an ancestor in the component hierarchy. |
| class | [**CaretEvent**](http://docs.google.com/javax/swing/event/CaretEvent.html)            CaretEvent is used to notify interested parties that the text caret has changed in the event source. |
| class | [**ChangeEvent**](http://docs.google.com/javax/swing/event/ChangeEvent.html)            ChangeEvent is used to notify interested parties that state has changed in the event source. |
| class | [**EventListenerList**](http://docs.google.com/javax/swing/event/EventListenerList.html)            A class that holds a list of EventListeners. |
| class | [**HyperlinkEvent**](http://docs.google.com/javax/swing/event/HyperlinkEvent.html)            HyperlinkEvent is used to notify interested parties that something has happened with respect to a hypertext link. |
| class | [**InternalFrameEvent**](http://docs.google.com/javax/swing/event/InternalFrameEvent.html)            An AWTEvent that adds support for JInternalFrame objects as the event source. |
| class | [**ListDataEvent**](http://docs.google.com/javax/swing/event/ListDataEvent.html)            Defines an event that encapsulates changes to a list. |
| class | [**ListSelectionEvent**](http://docs.google.com/javax/swing/event/ListSelectionEvent.html)            An event that characterizes a change in selection. |
| class | [**MenuDragMouseEvent**](http://docs.google.com/javax/swing/event/MenuDragMouseEvent.html)            MenuDragMouseEvent is used to notify interested parties that the menu element has received a MouseEvent forwarded to it under drag conditions. |
| class | [**MenuEvent**](http://docs.google.com/javax/swing/event/MenuEvent.html)            MenuEvent is used to notify interested parties that the menu which is the event source has been posted, selected, or canceled. |
| class | [**MenuKeyEvent**](http://docs.google.com/javax/swing/event/MenuKeyEvent.html)            MenuKeyEvent is used to notify interested parties that the menu element has received a KeyEvent forwarded to it in a menu tree. |
| class | [**PopupMenuEvent**](http://docs.google.com/javax/swing/event/PopupMenuEvent.html)            PopupMenuEvent only contains the source of the event which is the JPoupMenu sending the event |
| class | [**RowSorterEvent**](http://docs.google.com/javax/swing/event/RowSorterEvent.html)            RowSorterEvent provides notification of changes to a RowSorter. |
| static class | [**RowSorterEvent.Type**](http://docs.google.com/javax/swing/event/RowSorterEvent.Type.html)            Enumeration of the types of RowSorterEvents. |
| class | [**SwingPropertyChangeSupport**](http://docs.google.com/javax/swing/event/SwingPropertyChangeSupport.html)            This subclass of java.beans.PropertyChangeSupport is almost identical in functionality. |
| class | [**TableColumnModelEvent**](http://docs.google.com/javax/swing/event/TableColumnModelEvent.html)  **TableColumnModelEvent** is used to notify listeners that a table column model has changed, such as a column was added, removed, or moved. |
| class | [**TableModelEvent**](http://docs.google.com/javax/swing/event/TableModelEvent.html)            TableModelEvent is used to notify listeners that a table model has changed. |
| class | [**TreeExpansionEvent**](http://docs.google.com/javax/swing/event/TreeExpansionEvent.html)            An event used to identify a single path in a tree. |
| class | [**TreeModelEvent**](http://docs.google.com/javax/swing/event/TreeModelEvent.html)            Encapsulates information describing changes to a tree model, and used to notify tree model listeners of the change. |
| class | [**TreeSelectionEvent**](http://docs.google.com/javax/swing/event/TreeSelectionEvent.html)            An event that characterizes a change in the current selection. |
| class | [**UndoableEditEvent**](http://docs.google.com/javax/swing/event/UndoableEditEvent.html)            An event indicating that an operation which can be undone has occurred. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.plaf](http://docs.google.com/javax/swing/plaf/package-summary.html) | |
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| Classes in [javax.swing.plaf](http://docs.google.com/javax/swing/plaf/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**ActionMapUIResource**](http://docs.google.com/javax/swing/plaf/ActionMapUIResource.html)            A subclass of javax.swing.ActionMap that implements UIResource. |
| class | [**BorderUIResource**](http://docs.google.com/javax/swing/plaf/BorderUIResource.html) |
| static class | [**BorderUIResource.BevelBorderUIResource**](http://docs.google.com/javax/swing/plaf/BorderUIResource.BevelBorderUIResource.html) |
| static class | [**BorderUIResource.CompoundBorderUIResource**](http://docs.google.com/javax/swing/plaf/BorderUIResource.CompoundBorderUIResource.html) |
| static class | [**BorderUIResource.EmptyBorderUIResource**](http://docs.google.com/javax/swing/plaf/BorderUIResource.EmptyBorderUIResource.html) |
| static class | [**BorderUIResource.EtchedBorderUIResource**](http://docs.google.com/javax/swing/plaf/BorderUIResource.EtchedBorderUIResource.html) |
| static class | [**BorderUIResource.LineBorderUIResource**](http://docs.google.com/javax/swing/plaf/BorderUIResource.LineBorderUIResource.html) |
| static class | [**BorderUIResource.MatteBorderUIResource**](http://docs.google.com/javax/swing/plaf/BorderUIResource.MatteBorderUIResource.html) |
| static class | [**BorderUIResource.TitledBorderUIResource**](http://docs.google.com/javax/swing/plaf/BorderUIResource.TitledBorderUIResource.html) |
| class | [**ColorUIResource**](http://docs.google.com/javax/swing/plaf/ColorUIResource.html) |
| class | [**ComponentInputMapUIResource**](http://docs.google.com/javax/swing/plaf/ComponentInputMapUIResource.html)            A subclass of javax.swing.ComponentInputMap that implements UIResource. |
| class | [**DimensionUIResource**](http://docs.google.com/javax/swing/plaf/DimensionUIResource.html) |
| class | [**FontUIResource**](http://docs.google.com/javax/swing/plaf/FontUIResource.html)            A subclass of java.awt.Font that implements UIResource. |
| class | [**IconUIResource**](http://docs.google.com/javax/swing/plaf/IconUIResource.html)            An Icon wrapper class which implements UIResource. |
| class | [**InputMapUIResource**](http://docs.google.com/javax/swing/plaf/InputMapUIResource.html)            A subclass of javax.swing.InputMap that implements UIResource. |
| class | [**InsetsUIResource**](http://docs.google.com/javax/swing/plaf/InsetsUIResource.html) |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.plaf.basic](http://docs.google.com/javax/swing/plaf/basic/package-summary.html) | |
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| Classes in [javax.swing.plaf.basic](http://docs.google.com/javax/swing/plaf/basic/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**BasicArrowButton**](http://docs.google.com/javax/swing/plaf/basic/BasicArrowButton.html)            JButton object that draws a scaled Arrow in one of the cardinal directions. |
| static class | [**BasicBorders.ButtonBorder**](http://docs.google.com/javax/swing/plaf/basic/BasicBorders.ButtonBorder.html) |
| static class | [**BasicBorders.FieldBorder**](http://docs.google.com/javax/swing/plaf/basic/BasicBorders.FieldBorder.html) |
| static class | [**BasicBorders.MarginBorder**](http://docs.google.com/javax/swing/plaf/basic/BasicBorders.MarginBorder.html) |
| static class | [**BasicBorders.MenuBarBorder**](http://docs.google.com/javax/swing/plaf/basic/BasicBorders.MenuBarBorder.html) |
| static class | [**BasicBorders.RadioButtonBorder**](http://docs.google.com/javax/swing/plaf/basic/BasicBorders.RadioButtonBorder.html) |
| static class | [**BasicBorders.RolloverButtonBorder**](http://docs.google.com/javax/swing/plaf/basic/BasicBorders.RolloverButtonBorder.html)            Special thin border for rollover toolbar buttons. |
| static class | [**BasicBorders.ToggleButtonBorder**](http://docs.google.com/javax/swing/plaf/basic/BasicBorders.ToggleButtonBorder.html) |
| class | [**BasicComboBoxRenderer**](http://docs.google.com/javax/swing/plaf/basic/BasicComboBoxRenderer.html)            ComboBox renderer |
| static class | [**BasicComboBoxRenderer.UIResource**](http://docs.google.com/javax/swing/plaf/basic/BasicComboBoxRenderer.UIResource.html)            A subclass of BasicComboBoxRenderer that implements UIResource. |
| class | [**BasicComboPopup**](http://docs.google.com/javax/swing/plaf/basic/BasicComboPopup.html)            This is a basic implementation of the ComboPopup interface. |
| protected  class | [**BasicDesktopPaneUI.CloseAction**](http://docs.google.com/javax/swing/plaf/basic/BasicDesktopPaneUI.CloseAction.html)            Handles closing an internal frame. |
| protected  class | [**BasicDesktopPaneUI.MaximizeAction**](http://docs.google.com/javax/swing/plaf/basic/BasicDesktopPaneUI.MaximizeAction.html)            Handles maximizing an internal frame. |
| protected  class | [**BasicDesktopPaneUI.MinimizeAction**](http://docs.google.com/javax/swing/plaf/basic/BasicDesktopPaneUI.MinimizeAction.html)            Handles minimizing an internal frame. |
| protected  class | [**BasicDesktopPaneUI.NavigateAction**](http://docs.google.com/javax/swing/plaf/basic/BasicDesktopPaneUI.NavigateAction.html)            Handles navigating to the next internal frame. |
| protected  class | [**BasicDesktopPaneUI.OpenAction**](http://docs.google.com/javax/swing/plaf/basic/BasicDesktopPaneUI.OpenAction.html)            Handles restoring a minimized or maximized internal frame. |
| class | [**BasicDirectoryModel**](http://docs.google.com/javax/swing/plaf/basic/BasicDirectoryModel.html)            Basic implementation of a file list. |
| protected  class | [**BasicFileChooserUI.ApproveSelectionAction**](http://docs.google.com/javax/swing/plaf/basic/BasicFileChooserUI.ApproveSelectionAction.html)            Responds to an Open or Save request |
| protected  class | [**BasicFileChooserUI.CancelSelectionAction**](http://docs.google.com/javax/swing/plaf/basic/BasicFileChooserUI.CancelSelectionAction.html)            Responds to a cancel request. |
| protected  class | [**BasicFileChooserUI.ChangeToParentDirectoryAction**](http://docs.google.com/javax/swing/plaf/basic/BasicFileChooserUI.ChangeToParentDirectoryAction.html) |
| protected  class | [**BasicFileChooserUI.GoHomeAction**](http://docs.google.com/javax/swing/plaf/basic/BasicFileChooserUI.GoHomeAction.html)            Acts on the "home" key event or equivalent event. |
| protected  class | [**BasicFileChooserUI.NewFolderAction**](http://docs.google.com/javax/swing/plaf/basic/BasicFileChooserUI.NewFolderAction.html)            Creates a new folder. |
| protected  class | [**BasicFileChooserUI.UpdateAction**](http://docs.google.com/javax/swing/plaf/basic/BasicFileChooserUI.UpdateAction.html)            Rescans the files in the current directory |
| class | [**BasicIconFactory**](http://docs.google.com/javax/swing/plaf/basic/BasicIconFactory.html)            Factory object that can vend Icons appropriate for the basic L & F. |
| class | [**BasicInternalFrameTitlePane**](http://docs.google.com/javax/swing/plaf/basic/BasicInternalFrameTitlePane.html)            The class that manages a basic title bar |
| class | [**BasicInternalFrameTitlePane.CloseAction**](http://docs.google.com/javax/swing/plaf/basic/BasicInternalFrameTitlePane.CloseAction.html)            This class should be treated as a "protected" inner class. |
| class | [**BasicInternalFrameTitlePane.IconifyAction**](http://docs.google.com/javax/swing/plaf/basic/BasicInternalFrameTitlePane.IconifyAction.html)            This class should be treated as a "protected" inner class. |
| class | [**BasicInternalFrameTitlePane.MaximizeAction**](http://docs.google.com/javax/swing/plaf/basic/BasicInternalFrameTitlePane.MaximizeAction.html)            This class should be treated as a "protected" inner class. |
| class | [**BasicInternalFrameTitlePane.MoveAction**](http://docs.google.com/javax/swing/plaf/basic/BasicInternalFrameTitlePane.MoveAction.html)            This class should be treated as a "protected" inner class. |
| class | [**BasicInternalFrameTitlePane.RestoreAction**](http://docs.google.com/javax/swing/plaf/basic/BasicInternalFrameTitlePane.RestoreAction.html)            This class should be treated as a "protected" inner class. |
| class | [**BasicInternalFrameTitlePane.SizeAction**](http://docs.google.com/javax/swing/plaf/basic/BasicInternalFrameTitlePane.SizeAction.html)            This class should be treated as a "protected" inner class. |
| class | [**BasicInternalFrameTitlePane.SystemMenuBar**](http://docs.google.com/javax/swing/plaf/basic/BasicInternalFrameTitlePane.SystemMenuBar.html)            This class should be treated as a "protected" inner class. |
| class | [**BasicLookAndFeel**](http://docs.google.com/javax/swing/plaf/basic/BasicLookAndFeel.html)            A base class to use in creating a look and feel for Swing. |
| class | [**BasicSliderUI.ActionScroller**](http://docs.google.com/javax/swing/plaf/basic/BasicSliderUI.ActionScroller.html)            As of Java 2 platform v1.3 this undocumented class is no longer used. |
| class | [**BasicSplitPaneDivider**](http://docs.google.com/javax/swing/plaf/basic/BasicSplitPaneDivider.html)            Divider used by BasicSplitPaneUI. |
| static class | [**BasicTextUI.BasicCaret**](http://docs.google.com/javax/swing/plaf/basic/BasicTextUI.BasicCaret.html) |
| protected  class | [**BasicToolBarUI.DragWindow**](http://docs.google.com/javax/swing/plaf/basic/BasicToolBarUI.DragWindow.html) |
| class | [**BasicTreeUI.TreeCancelEditingAction**](http://docs.google.com/javax/swing/plaf/basic/BasicTreeUI.TreeCancelEditingAction.html)            ActionListener that invokes cancelEditing when action performed. |
| class | [**BasicTreeUI.TreeHomeAction**](http://docs.google.com/javax/swing/plaf/basic/BasicTreeUI.TreeHomeAction.html)            TreeHomeAction is used to handle end/home actions. |
| class | [**BasicTreeUI.TreeIncrementAction**](http://docs.google.com/javax/swing/plaf/basic/BasicTreeUI.TreeIncrementAction.html)            TreeIncrementAction is used to handle up/down actions. |
| class | [**BasicTreeUI.TreePageAction**](http://docs.google.com/javax/swing/plaf/basic/BasicTreeUI.TreePageAction.html)            TreePageAction handles page up and page down events. |
| class | [**BasicTreeUI.TreeToggleAction**](http://docs.google.com/javax/swing/plaf/basic/BasicTreeUI.TreeToggleAction.html)            For the first selected row expandedness will be toggled. |
| class | [**BasicTreeUI.TreeTraverseAction**](http://docs.google.com/javax/swing/plaf/basic/BasicTreeUI.TreeTraverseAction.html)            TreeTraverseAction is the action used for left/right keys. |
| class | [**DefaultMenuLayout**](http://docs.google.com/javax/swing/plaf/basic/DefaultMenuLayout.html)            The default layout manager for Popup menus and menubars. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.plaf.metal](http://docs.google.com/javax/swing/plaf/metal/package-summary.html) | |
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| Classes in [javax.swing.plaf.metal](http://docs.google.com/javax/swing/plaf/metal/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| static class | [**MetalBorders.ButtonBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.ButtonBorder.html) |
| static class | [**MetalBorders.Flush3DBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.Flush3DBorder.html) |
| static class | [**MetalBorders.InternalFrameBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.InternalFrameBorder.html) |
| static class | [**MetalBorders.MenuBarBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.MenuBarBorder.html) |
| static class | [**MetalBorders.MenuItemBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.MenuItemBorder.html) |
| static class | [**MetalBorders.OptionDialogBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.OptionDialogBorder.html) |
| static class | [**MetalBorders.PaletteBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.PaletteBorder.html)            Border for a Palette. |
| static class | [**MetalBorders.PopupMenuBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.PopupMenuBorder.html) |
| static class | [**MetalBorders.RolloverButtonBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.RolloverButtonBorder.html) |
| static class | [**MetalBorders.ScrollPaneBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.ScrollPaneBorder.html) |
| static class | [**MetalBorders.TableHeaderBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.TableHeaderBorder.html)            Border for a Table Header |
| static class | [**MetalBorders.TextFieldBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.TextFieldBorder.html) |
| static class | [**MetalBorders.ToggleButtonBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.ToggleButtonBorder.html) |
| static class | [**MetalBorders.ToolBarBorder**](http://docs.google.com/javax/swing/plaf/metal/MetalBorders.ToolBarBorder.html) |
| class | [**MetalCheckBoxIcon**](http://docs.google.com/javax/swing/plaf/metal/MetalCheckBoxIcon.html)            CheckboxIcon implementation for OrganicCheckBoxUI |
| class | [**MetalComboBoxButton**](http://docs.google.com/javax/swing/plaf/metal/MetalComboBoxButton.html)            JButton subclass to help out MetalComboBoxUI |
| class | [**MetalComboBoxIcon**](http://docs.google.com/javax/swing/plaf/metal/MetalComboBoxIcon.html)            This utility class draws the horizontal bars which indicate a MetalComboBox |
| class | [**MetalComboBoxUI.MetalComboPopup**](http://docs.google.com/javax/swing/plaf/metal/MetalComboBoxUI.MetalComboPopup.html)  **Deprecated.** *As of Java 2 platform v1.4.* |
| protected  class | [**MetalFileChooserUI.DirectoryComboBoxAction**](http://docs.google.com/javax/swing/plaf/metal/MetalFileChooserUI.DirectoryComboBoxAction.html)            Acts when DirectoryComboBox has changed the selected item. |
| protected  class | [**MetalFileChooserUI.DirectoryComboBoxModel**](http://docs.google.com/javax/swing/plaf/metal/MetalFileChooserUI.DirectoryComboBoxModel.html)            Data model for a type-face selection combo-box. |
| protected  class | [**MetalFileChooserUI.FileRenderer**](http://docs.google.com/javax/swing/plaf/metal/MetalFileChooserUI.FileRenderer.html) |
| protected  class | [**MetalFileChooserUI.FilterComboBoxModel**](http://docs.google.com/javax/swing/plaf/metal/MetalFileChooserUI.FilterComboBoxModel.html)            Data model for a type-face selection combo-box. |
| class | [**MetalFileChooserUI.FilterComboBoxRenderer**](http://docs.google.com/javax/swing/plaf/metal/MetalFileChooserUI.FilterComboBoxRenderer.html)            Render different type sizes and styles. |
| class | [**MetalIconFactory**](http://docs.google.com/javax/swing/plaf/metal/MetalIconFactory.html)            Factory object that vends Icons for the JavaTM look and feel (Metal). |
| static class | [**MetalIconFactory.FileIcon16**](http://docs.google.com/javax/swing/plaf/metal/MetalIconFactory.FileIcon16.html)  **Warning:** Serialized objects of this class will not be compatible with future Swing releases. |
| static class | [**MetalIconFactory.FolderIcon16**](http://docs.google.com/javax/swing/plaf/metal/MetalIconFactory.FolderIcon16.html)  **Warning:** Serialized objects of this class will not be compatible with future Swing releases. |
| static class | [**MetalIconFactory.PaletteCloseIcon**](http://docs.google.com/javax/swing/plaf/metal/MetalIconFactory.PaletteCloseIcon.html)            Defines an icon for Palette close |
| static class | [**MetalIconFactory.TreeControlIcon**](http://docs.google.com/javax/swing/plaf/metal/MetalIconFactory.TreeControlIcon.html)  **Warning:** Serialized objects of this class will not be compatible with future Swing releases. |
| static class | [**MetalIconFactory.TreeFolderIcon**](http://docs.google.com/javax/swing/plaf/metal/MetalIconFactory.TreeFolderIcon.html)  **Warning:** Serialized objects of this class will not be compatible with future Swing releases. |
| static class | [**MetalIconFactory.TreeLeafIcon**](http://docs.google.com/javax/swing/plaf/metal/MetalIconFactory.TreeLeafIcon.html) |
| class | [**MetalInternalFrameTitlePane**](http://docs.google.com/javax/swing/plaf/metal/MetalInternalFrameTitlePane.html)            Class that manages a JLF title bar |
| class | [**MetalLookAndFeel**](http://docs.google.com/javax/swing/plaf/metal/MetalLookAndFeel.html)            The Java Look and Feel, otherwise known as Metal. |
| class | [**MetalScrollButton**](http://docs.google.com/javax/swing/plaf/metal/MetalScrollButton.html)            JButton object for Metal scrollbar arrows. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.plaf.synth](http://docs.google.com/javax/swing/plaf/synth/package-summary.html) | |
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| Classes in [javax.swing.plaf.synth](http://docs.google.com/javax/swing/plaf/synth/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**SynthLookAndFeel**](http://docs.google.com/javax/swing/plaf/synth/SynthLookAndFeel.html)            SynthLookAndFeel provides the basis for creating a customized look and feel. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.table](http://docs.google.com/javax/swing/table/package-summary.html) | |
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| Classes in [javax.swing.table](http://docs.google.com/javax/swing/table/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AbstractTableModel**](http://docs.google.com/javax/swing/table/AbstractTableModel.html)            This abstract class provides default implementations for most of the methods in the TableModel interface. |
| class | [**DefaultTableCellRenderer**](http://docs.google.com/javax/swing/table/DefaultTableCellRenderer.html)            The standard class for rendering (displaying) individual cells in a JTable. |
| static class | [**DefaultTableCellRenderer.UIResource**](http://docs.google.com/javax/swing/table/DefaultTableCellRenderer.UIResource.html)            A subclass of DefaultTableCellRenderer that implements UIResource. |
| class | [**DefaultTableColumnModel**](http://docs.google.com/javax/swing/table/DefaultTableColumnModel.html)            The standard column-handler for a JTable. |
| class | [**DefaultTableModel**](http://docs.google.com/javax/swing/table/DefaultTableModel.html)            This is an implementation of TableModel that uses a Vector of Vectors to store the cell value objects. |
| class | [**JTableHeader**](http://docs.google.com/javax/swing/table/JTableHeader.html)            This is the object which manages the header of the JTable. |
| protected  class | [**JTableHeader.AccessibleJTableHeader**](http://docs.google.com/javax/swing/table/JTableHeader.AccessibleJTableHeader.html)            This class implements accessibility support for the JTableHeader class. |
| class | [**TableColumn**](http://docs.google.com/javax/swing/table/TableColumn.html)            A TableColumn represents all the attributes of a column in a JTable, such as width, resizibility, minimum and maximum width. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.text](http://docs.google.com/javax/swing/text/package-summary.html) | |
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| Classes in [javax.swing.text](http://docs.google.com/javax/swing/text/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AbstractDocument**](http://docs.google.com/javax/swing/text/AbstractDocument.html)            An implementation of the document interface to serve as a basis for implementing various kinds of documents. |
| class | [**AbstractDocument.AbstractElement**](http://docs.google.com/javax/swing/text/AbstractDocument.AbstractElement.html)            Implements the abstract part of an element. |
| class | [**AbstractDocument.BranchElement**](http://docs.google.com/javax/swing/text/AbstractDocument.BranchElement.html)            Implements a composite element that contains other elements. |
| class | [**AbstractDocument.DefaultDocumentEvent**](http://docs.google.com/javax/swing/text/AbstractDocument.DefaultDocumentEvent.html)            Stores document changes as the document is being modified. |
| static class | [**AbstractDocument.ElementEdit**](http://docs.google.com/javax/swing/text/AbstractDocument.ElementEdit.html)            An implementation of ElementChange that can be added to the document event. |
| class | [**AbstractDocument.LeafElement**](http://docs.google.com/javax/swing/text/AbstractDocument.LeafElement.html)            Implements an element that directly represents content of some kind. |
| class | [**BadLocationException**](http://docs.google.com/javax/swing/text/BadLocationException.html)            This exception is to report bad locations within a document model (that is, attempts to reference a location that doesn't exist). |
| class | [**ChangedCharSetException**](http://docs.google.com/javax/swing/text/ChangedCharSetException.html)            ChangedCharSetException as the name indicates is an exception thrown when the charset is changed. |
| class | [**DateFormatter**](http://docs.google.com/javax/swing/text/DateFormatter.html)            DateFormatter is an InternationalFormatter that does its formatting by way of an instance of java.text.DateFormat. |
| class | [**DefaultCaret**](http://docs.google.com/javax/swing/text/DefaultCaret.html)            A default implementation of Caret. |
| class | [**DefaultEditorKit**](http://docs.google.com/javax/swing/text/DefaultEditorKit.html)            This is the set of things needed by a text component to be a reasonably functioning editor for some *type* of text document. |
| static class | [**DefaultEditorKit.BeepAction**](http://docs.google.com/javax/swing/text/DefaultEditorKit.BeepAction.html)            Creates a beep. |
| static class | [**DefaultEditorKit.CopyAction**](http://docs.google.com/javax/swing/text/DefaultEditorKit.CopyAction.html)            Copies the selected region and place its contents into the system clipboard. |
| static class | [**DefaultEditorKit.CutAction**](http://docs.google.com/javax/swing/text/DefaultEditorKit.CutAction.html)            Cuts the selected region and place its contents into the system clipboard. |
| static class | [**DefaultEditorKit.DefaultKeyTypedAction**](http://docs.google.com/javax/swing/text/DefaultEditorKit.DefaultKeyTypedAction.html)            The action that is executed by default if a *key typed event* is received and there is no keymap entry. |
| static class | [**DefaultEditorKit.InsertBreakAction**](http://docs.google.com/javax/swing/text/DefaultEditorKit.InsertBreakAction.html)            Places a line/paragraph break into the document. |
| static class | [**DefaultEditorKit.InsertContentAction**](http://docs.google.com/javax/swing/text/DefaultEditorKit.InsertContentAction.html)            Places content into the associated document. |
| static class | [**DefaultEditorKit.InsertTabAction**](http://docs.google.com/javax/swing/text/DefaultEditorKit.InsertTabAction.html)            Places a tab character into the document. |
| static class | [**DefaultEditorKit.PasteAction**](http://docs.google.com/javax/swing/text/DefaultEditorKit.PasteAction.html)            Pastes the contents of the system clipboard into the selected region, or before the caret if nothing is selected. |
| class | [**DefaultFormatter**](http://docs.google.com/javax/swing/text/DefaultFormatter.html)            DefaultFormatter formats aribtrary objects. |
| class | [**DefaultFormatterFactory**](http://docs.google.com/javax/swing/text/DefaultFormatterFactory.html)            An implementation of JFormattedTextField.AbstractFormatterFactory. |
| class | [**DefaultStyledDocument**](http://docs.google.com/javax/swing/text/DefaultStyledDocument.html)            A document that can be marked up with character and paragraph styles in a manner similar to the Rich Text Format. |
| static class | [**DefaultStyledDocument.AttributeUndoableEdit**](http://docs.google.com/javax/swing/text/DefaultStyledDocument.AttributeUndoableEdit.html)            An UndoableEdit used to remember AttributeSet changes to an Element. |
| class | [**DefaultStyledDocument.ElementBuffer**](http://docs.google.com/javax/swing/text/DefaultStyledDocument.ElementBuffer.html)            Class to manage changes to the element hierarchy. |
| protected  class | [**DefaultStyledDocument.SectionElement**](http://docs.google.com/javax/swing/text/DefaultStyledDocument.SectionElement.html)            Default root element for a document... |
| class | [**EditorKit**](http://docs.google.com/javax/swing/text/EditorKit.html)            Establishes the set of things needed by a text component to be a reasonably functioning editor for some *type* of text content. |
| class | [**GapContent**](http://docs.google.com/javax/swing/text/GapContent.html)            An implementation of the AbstractDocument.Content interface implemented using a gapped buffer similar to that used by emacs. |
| class | [**InternationalFormatter**](http://docs.google.com/javax/swing/text/InternationalFormatter.html)            InternationalFormatter extends DefaultFormatter, using an instance of java.text.Format to handle the conversion to a String, and the conversion from a String. |
| class | [**JTextComponent**](http://docs.google.com/javax/swing/text/JTextComponent.html)            JTextComponent is the base class for swing text components. |
| class | [**JTextComponent.AccessibleJTextComponent**](http://docs.google.com/javax/swing/text/JTextComponent.AccessibleJTextComponent.html)            This class implements accessibility support for the JTextComponent class. |
| class | [**MaskFormatter**](http://docs.google.com/javax/swing/text/MaskFormatter.html)            MaskFormatter is used to format and edit strings. |
| class | [**NumberFormatter**](http://docs.google.com/javax/swing/text/NumberFormatter.html)            NumberFormatter subclasses InternationalFormatter adding special behavior for numbers. |
| class | [**PlainDocument**](http://docs.google.com/javax/swing/text/PlainDocument.html)            A plain document that maintains no character attributes. |
| class | [**SimpleAttributeSet**](http://docs.google.com/javax/swing/text/SimpleAttributeSet.html)            A straightforward implementation of MutableAttributeSet using a hash table. |
| class | [**StringContent**](http://docs.google.com/javax/swing/text/StringContent.html)            An implementation of the AbstractDocument.Content interface that is a brute force implementation that is useful for relatively small documents and/or debugging. |
| class | [**StyleContext**](http://docs.google.com/javax/swing/text/StyleContext.html)            A pool of styles and their associated resources. |
| class | [**StyleContext.NamedStyle**](http://docs.google.com/javax/swing/text/StyleContext.NamedStyle.html)            A collection of attributes, typically used to represent character and paragraph styles. |
| class | [**StyledEditorKit**](http://docs.google.com/javax/swing/text/StyledEditorKit.html)            This is the set of things needed by a text component to be a reasonably functioning editor for some *type* of text document. |
| static class | [**StyledEditorKit.AlignmentAction**](http://docs.google.com/javax/swing/text/StyledEditorKit.AlignmentAction.html)            An action to set paragraph alignment. |
| static class | [**StyledEditorKit.BoldAction**](http://docs.google.com/javax/swing/text/StyledEditorKit.BoldAction.html)            An action to toggle the bold attribute. |
| static class | [**StyledEditorKit.FontFamilyAction**](http://docs.google.com/javax/swing/text/StyledEditorKit.FontFamilyAction.html)            An action to set the font family in the associated JEditorPane. |
| static class | [**StyledEditorKit.FontSizeAction**](http://docs.google.com/javax/swing/text/StyledEditorKit.FontSizeAction.html)            An action to set the font size in the associated JEditorPane. |
| static class | [**StyledEditorKit.ForegroundAction**](http://docs.google.com/javax/swing/text/StyledEditorKit.ForegroundAction.html)            An action to set foreground color. |
| static class | [**StyledEditorKit.ItalicAction**](http://docs.google.com/javax/swing/text/StyledEditorKit.ItalicAction.html)            An action to toggle the italic attribute. |
| static class | [**StyledEditorKit.StyledTextAction**](http://docs.google.com/javax/swing/text/StyledEditorKit.StyledTextAction.html)            An action that assumes it's being fired on a JEditorPane with a StyledEditorKit (or subclass) installed. |
| static class | [**StyledEditorKit.UnderlineAction**](http://docs.google.com/javax/swing/text/StyledEditorKit.UnderlineAction.html)            An action to toggle the underline attribute. |
| class | [**TabSet**](http://docs.google.com/javax/swing/text/TabSet.html)            A TabSet is comprised of many TabStops. |
| class | [**TabStop**](http://docs.google.com/javax/swing/text/TabStop.html)            This class encapsulates a single tab stop (basically as tab stops are thought of by RTF). |
| class | [**TextAction**](http://docs.google.com/javax/swing/text/TextAction.html)            An Action implementation useful for key bindings that are shared across a number of different text components. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.text.html](http://docs.google.com/javax/swing/text/html/package-summary.html) | |
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| Classes in [javax.swing.text.html](http://docs.google.com/javax/swing/text/html/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**CSS**](http://docs.google.com/javax/swing/text/html/CSS.html)            Defines a set of [CSS attributes](http://www.w3.org/TR/REC-CSS1) as a typesafe enumeration. |
| class | [**FormSubmitEvent**](http://docs.google.com/javax/swing/text/html/FormSubmitEvent.html)            FormSubmitEvent is used to notify interested parties that a form was submited. |
| static class | [**FormSubmitEvent.MethodType**](http://docs.google.com/javax/swing/text/html/FormSubmitEvent.MethodType.html)            Represents an HTML form method type. |
| static class | [**HTML.UnknownTag**](http://docs.google.com/javax/swing/text/html/HTML.UnknownTag.html) |
| class | [**HTMLDocument**](http://docs.google.com/javax/swing/text/html/HTMLDocument.html)            A document that models HTML. |
| class | [**HTMLDocument.BlockElement**](http://docs.google.com/javax/swing/text/html/HTMLDocument.BlockElement.html)            An element that represents a structural *block* of HTML. |
| class | [**HTMLDocument.RunElement**](http://docs.google.com/javax/swing/text/html/HTMLDocument.RunElement.html)            An element that represents a chunk of text that has a set of HTML character level attributes assigned to it. |
| class | [**HTMLEditorKit**](http://docs.google.com/javax/swing/text/html/HTMLEditorKit.html)            The Swing JEditorPane text component supports different kinds of content via a plug-in mechanism called an EditorKit. |
| static class | [**HTMLEditorKit.HTMLTextAction**](http://docs.google.com/javax/swing/text/html/HTMLEditorKit.HTMLTextAction.html)            An abstract Action providing some convenience methods that may be useful in inserting HTML into an existing document. |
| static class | [**HTMLEditorKit.InsertHTMLTextAction**](http://docs.google.com/javax/swing/text/html/HTMLEditorKit.InsertHTMLTextAction.html)            InsertHTMLTextAction can be used to insert an arbitrary string of HTML into an existing HTML document. |
| static class | [**HTMLEditorKit.LinkController**](http://docs.google.com/javax/swing/text/html/HTMLEditorKit.LinkController.html)            Class to watch the associated component and fire hyperlink events on it when appropriate. |
| class | [**HTMLFrameHyperlinkEvent**](http://docs.google.com/javax/swing/text/html/HTMLFrameHyperlinkEvent.html)            HTMLFrameHyperlinkEvent is used to notify interested parties that link was activated in a frame. |
| class | [**Option**](http://docs.google.com/javax/swing/text/html/Option.html)            Value for the ListModel used to represent <option> elements. |
| class | [**StyleSheet**](http://docs.google.com/javax/swing/text/html/StyleSheet.html)            Support for defining the visual characteristics of HTML views being rendered. |
| static class | [**StyleSheet.BoxPainter**](http://docs.google.com/javax/swing/text/html/StyleSheet.BoxPainter.html)            Class to carry out some of the duties of CSS formatting. |
| static class | [**StyleSheet.ListPainter**](http://docs.google.com/javax/swing/text/html/StyleSheet.ListPainter.html)            Class to carry out some of the duties of CSS list formatting. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.text.html.parser](http://docs.google.com/javax/swing/text/html/parser/package-summary.html) | |
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| Classes in [javax.swing.text.html.parser](http://docs.google.com/javax/swing/text/html/parser/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**ContentModel**](http://docs.google.com/javax/swing/text/html/parser/ContentModel.html)            A representation of a content model. |
| class | [**Element**](http://docs.google.com/javax/swing/text/html/parser/Element.html)            An element as described in a DTD using the ELEMENT construct. |
| class | [**ParserDelegator**](http://docs.google.com/javax/swing/text/html/parser/ParserDelegator.html)            Responsible for starting up a new DocumentParser each time its parse method is invoked. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.text.rtf](http://docs.google.com/javax/swing/text/rtf/package-summary.html) | |
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| Classes in [javax.swing.text.rtf](http://docs.google.com/javax/swing/text/rtf/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**RTFEditorKit**](http://docs.google.com/javax/swing/text/rtf/RTFEditorKit.html)            This is the default implementation of RTF editing functionality. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.tree](http://docs.google.com/javax/swing/tree/package-summary.html) | |
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| Classes in [javax.swing.tree](http://docs.google.com/javax/swing/tree/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**DefaultMutableTreeNode**](http://docs.google.com/javax/swing/tree/DefaultMutableTreeNode.html)            A DefaultMutableTreeNode is a general-purpose node in a tree data structure. |
| class | [**DefaultTreeCellEditor.DefaultTextField**](http://docs.google.com/javax/swing/tree/DefaultTreeCellEditor.DefaultTextField.html)            TextField used when no editor is supplied. |
| class | [**DefaultTreeCellEditor.EditorContainer**](http://docs.google.com/javax/swing/tree/DefaultTreeCellEditor.EditorContainer.html)            Container responsible for placing the editingComponent. |
| class | [**DefaultTreeCellRenderer**](http://docs.google.com/javax/swing/tree/DefaultTreeCellRenderer.html)            Displays an entry in a tree. |
| class | [**DefaultTreeModel**](http://docs.google.com/javax/swing/tree/DefaultTreeModel.html)            A simple tree data model that uses TreeNodes. |
| class | [**DefaultTreeSelectionModel**](http://docs.google.com/javax/swing/tree/DefaultTreeSelectionModel.html)            Default implementation of TreeSelectionModel. |
| class | [**ExpandVetoException**](http://docs.google.com/javax/swing/tree/ExpandVetoException.html)            Exception used to stop and expand/collapse from happening. |
| class | [**TreePath**](http://docs.google.com/javax/swing/tree/TreePath.html)            Represents a path to a node. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.swing.undo](http://docs.google.com/javax/swing/undo/package-summary.html) | |
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| Classes in [javax.swing.undo](http://docs.google.com/javax/swing/undo/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**AbstractUndoableEdit**](http://docs.google.com/javax/swing/undo/AbstractUndoableEdit.html)            An abstract implementation of UndoableEdit, implementing simple responses to all boolean methods in that interface. |
| class | [**CannotRedoException**](http://docs.google.com/javax/swing/undo/CannotRedoException.html)            Thrown when an UndoableEdit is told to redo() and can't. |
| class | [**CannotUndoException**](http://docs.google.com/javax/swing/undo/CannotUndoException.html)            Thrown when an UndoableEdit is told to undo() and can't. |
| class | [**CompoundEdit**](http://docs.google.com/javax/swing/undo/CompoundEdit.html)            A concrete subclass of AbstractUndoableEdit, used to assemble little UndoableEdits into great big ones. |
| class | [**StateEdit**](http://docs.google.com/javax/swing/undo/StateEdit.html)            StateEdit is a general edit for objects that change state. |
| class | [**UndoManager**](http://docs.google.com/javax/swing/undo/UndoManager.html)            UndoManager manages a list of UndoableEdits, providing a way to undo or redo the appropriate edits. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.tools](http://docs.google.com/javax/tools/package-summary.html) | |
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| Classes in [javax.tools](http://docs.google.com/javax/tools/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| static class | [**Diagnostic.Kind**](http://docs.google.com/javax/tools/Diagnostic.Kind.html)            Kinds of diagnostics, for example, error or warning. |
| static class | [**JavaFileObject.Kind**](http://docs.google.com/javax/tools/JavaFileObject.Kind.html)            Kinds of JavaFileObjects. |
| class | [**StandardLocation**](http://docs.google.com/javax/tools/StandardLocation.html)            Standard locations of file objects. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.transaction](http://docs.google.com/javax/transaction/package-summary.html) | |
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| Classes in [javax.transaction](http://docs.google.com/javax/transaction/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**InvalidTransactionException**](http://docs.google.com/javax/transaction/InvalidTransactionException.html)            This exception indicates that the request carried an invalid transaction context. |
| class | [**TransactionRequiredException**](http://docs.google.com/javax/transaction/TransactionRequiredException.html)            This exception indicates that a request carried a null transaction context, but the target object requires an activate transaction. |
| class | [**TransactionRolledbackException**](http://docs.google.com/javax/transaction/TransactionRolledbackException.html)            This exception indicates that the transaction associated with processing of the request has been rolled back, or marked to roll back. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.transaction.xa](http://docs.google.com/javax/transaction/xa/package-summary.html) | |
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| Classes in [javax.transaction.xa](http://docs.google.com/javax/transaction/xa/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**XAException**](http://docs.google.com/javax/transaction/xa/XAException.html)            The XAException is thrown by the Resource Manager (RM) to inform the Transaction Manager of an error encountered by the involved transaction. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.bind](http://docs.google.com/javax/xml/bind/package-summary.html) | |
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| Classes in [javax.xml.bind](http://docs.google.com/javax/xml/bind/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**JAXBElement<T>**](http://docs.google.com/javax/xml/bind/JAXBElement.html)            JAXB representation of an Xml Element. |
| class | [**JAXBException**](http://docs.google.com/javax/xml/bind/JAXBException.html)            This is the root exception class for all JAXB exceptions. |
| class | [**PropertyException**](http://docs.google.com/javax/xml/bind/PropertyException.html)            This exception indicates that an error was encountered while getting or setting a property. |
| class | [**TypeConstraintException**](http://docs.google.com/javax/xml/bind/TypeConstraintException.html)            This exception indicates that a violation of a dynamically checked type constraint was detected. |
| class | [**ValidationException**](http://docs.google.com/javax/xml/bind/ValidationException.html)            This exception indicates that an error has occurred while performing a validate operation. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.bind.annotation](http://docs.google.com/javax/xml/bind/annotation/package-summary.html) | |
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| Classes in [javax.xml.bind.annotation](http://docs.google.com/javax/xml/bind/annotation/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**XmlAccessOrder**](http://docs.google.com/javax/xml/bind/annotation/XmlAccessOrder.html)            Used by XmlAccessorOrder to control the ordering of properties and fields in a JAXB bound class. |
| class | [**XmlAccessType**](http://docs.google.com/javax/xml/bind/annotation/XmlAccessType.html)            Used by XmlAccessorType to control serialization of fields or properties. |
| class | [**XmlNsForm**](http://docs.google.com/javax/xml/bind/annotation/XmlNsForm.html)            Enumeration of XML Schema namespace qualifications. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.crypto](http://docs.google.com/javax/xml/crypto/package-summary.html) | |
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| Classes in [javax.xml.crypto](http://docs.google.com/javax/xml/crypto/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**KeySelectorException**](http://docs.google.com/javax/xml/crypto/KeySelectorException.html)            Indicates an exceptional condition thrown by a [KeySelector](http://docs.google.com/javax/xml/crypto/KeySelector.html). |
| class | [**NoSuchMechanismException**](http://docs.google.com/javax/xml/crypto/NoSuchMechanismException.html)            This exception is thrown when a particular XML mechanism is requested but is not available in the environment. |
| class | [**URIReferenceException**](http://docs.google.com/javax/xml/crypto/URIReferenceException.html)            Indicates an exceptional condition thrown while dereferencing a [URIReference](http://docs.google.com/javax/xml/crypto/URIReference.html). |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.crypto.dsig](http://docs.google.com/javax/xml/crypto/dsig/package-summary.html) | |
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| Classes in [javax.xml.crypto.dsig](http://docs.google.com/javax/xml/crypto/dsig/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**TransformException**](http://docs.google.com/javax/xml/crypto/dsig/TransformException.html)            Indicates an exceptional condition that occured while executing a transform algorithm. |
| class | [**XMLSignatureException**](http://docs.google.com/javax/xml/crypto/dsig/XMLSignatureException.html)            Indicates an exceptional condition that occured during the XML signature generation or validation process. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.datatype](http://docs.google.com/javax/xml/datatype/package-summary.html) | |
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| Classes in [javax.xml.datatype](http://docs.google.com/javax/xml/datatype/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**DatatypeConfigurationException**](http://docs.google.com/javax/xml/datatype/DatatypeConfigurationException.html)            Indicates a serious configuration error. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.namespace](http://docs.google.com/javax/xml/namespace/package-summary.html) | |
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| Classes in [javax.xml.namespace](http://docs.google.com/javax/xml/namespace/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
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| class | [**QName**](http://docs.google.com/javax/xml/namespace/QName.html)            QName represents a **qualified name** as defined in the XML specifications: [XML Schema Part2: Datatypes specification](http://www.w3.org/TR/xmlschema-2/#QName), [Namespaces in XML](http://www.w3.org/TR/REC-xml-names/#ns-qualnames), [Namespaces in XML Errata](http://www.w3.org/XML/xml-names-19990114-errata). |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.parsers](http://docs.google.com/javax/xml/parsers/package-summary.html) | |
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| Classes in [javax.xml.parsers](http://docs.google.com/javax/xml/parsers/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**FactoryConfigurationError**](http://docs.google.com/javax/xml/parsers/FactoryConfigurationError.html)            Thrown when a problem with configuration with the Parser Factories exists. |
| class | [**ParserConfigurationException**](http://docs.google.com/javax/xml/parsers/ParserConfigurationException.html)            Indicates a serious configuration error. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.soap](http://docs.google.com/javax/xml/soap/package-summary.html) | |
| --- | --- |

| Classes in [javax.xml.soap](http://docs.google.com/javax/xml/soap/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**SOAPException**](http://docs.google.com/javax/xml/soap/SOAPException.html)            An exception that signals that a SOAP exception has occurred. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.stream](http://docs.google.com/javax/xml/stream/package-summary.html) | |
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| Classes in [javax.xml.stream](http://docs.google.com/javax/xml/stream/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**XMLStreamException**](http://docs.google.com/javax/xml/stream/XMLStreamException.html)            The base exception for unexpected processing errors. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.transform](http://docs.google.com/javax/xml/transform/package-summary.html) | |
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| Classes in [javax.xml.transform](http://docs.google.com/javax/xml/transform/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**TransformerConfigurationException**](http://docs.google.com/javax/xml/transform/TransformerConfigurationException.html)            Indicates a serious configuration error. |
| class | [**TransformerException**](http://docs.google.com/javax/xml/transform/TransformerException.html)            This class specifies an exceptional condition that occured during the transformation process. |
| class | [**TransformerFactoryConfigurationError**](http://docs.google.com/javax/xml/transform/TransformerFactoryConfigurationError.html)            Thrown when a problem with configuration with the Transformer Factories exists. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.ws](http://docs.google.com/javax/xml/ws/package-summary.html) | |
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| Classes in [javax.xml.ws](http://docs.google.com/javax/xml/ws/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| static class | [**Service.Mode**](http://docs.google.com/javax/xml/ws/Service.Mode.html)            The orientation of a dynamic client or service. |
| class | [**WebServiceException**](http://docs.google.com/javax/xml/ws/WebServiceException.html)            The WebServiceException class is the base exception class for all JAX-WS API runtime exceptions. |
| class | [**WebServicePermission**](http://docs.google.com/javax/xml/ws/WebServicePermission.html)            This class defines web service permissions. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.ws.handler](http://docs.google.com/javax/xml/ws/handler/package-summary.html) | |
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| Classes in [javax.xml.ws.handler](http://docs.google.com/javax/xml/ws/handler/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| static class | [**MessageContext.Scope**](http://docs.google.com/javax/xml/ws/handler/MessageContext.Scope.html)            Property scope. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.ws.http](http://docs.google.com/javax/xml/ws/http/package-summary.html) | |
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| Classes in [javax.xml.ws.http](http://docs.google.com/javax/xml/ws/http/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**HTTPException**](http://docs.google.com/javax/xml/ws/http/HTTPException.html)            The HTTPException exception represents a XML/HTTP fault. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.ws.soap](http://docs.google.com/javax/xml/ws/soap/package-summary.html) | |
| --- | --- |

| Classes in [javax.xml.ws.soap](http://docs.google.com/javax/xml/ws/soap/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**SOAPFaultException**](http://docs.google.com/javax/xml/ws/soap/SOAPFaultException.html)            The SOAPFaultException exception represents a SOAP 1.1 or 1.2 fault. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [javax.xml.xpath](http://docs.google.com/javax/xml/xpath/package-summary.html) | |
| --- | --- |

| Classes in [javax.xml.xpath](http://docs.google.com/javax/xml/xpath/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**XPathException**](http://docs.google.com/javax/xml/xpath/XPathException.html)            XPathException represents a generic XPath exception. |
| class | [**XPathExpressionException**](http://docs.google.com/javax/xml/xpath/XPathExpressionException.html)            XPathExpressionException represents an error in an XPath expression. |
| class | [**XPathFactoryConfigurationException**](http://docs.google.com/javax/xml/xpath/XPathFactoryConfigurationException.html)            XPathFactoryConfigurationException represents a configuration error in a XPathFactory environment. |
| class | [**XPathFunctionException**](http://docs.google.com/javax/xml/xpath/XPathFunctionException.html)            XPathFunctionException represents an error with an XPath function. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.ietf.jgss](http://docs.google.com/org/ietf/jgss/package-summary.html) | |
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| Classes in [org.ietf.jgss](http://docs.google.com/org/ietf/jgss/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**GSSException**](http://docs.google.com/org/ietf/jgss/GSSException.html)            This exception is thrown whenever a GSS-API error occurs, including any mechanism specific error. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CORBA](http://docs.google.com/org/omg/CORBA/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CORBA](http://docs.google.com/org/omg/CORBA/package-summary.html) | |
| --- | --- |
| interface | [**Current**](http://docs.google.com/org/omg/CORBA/Current.html)            Interfaces derived from the Current interface enable ORB and CORBA services to provide access to information (context) associated with the thread of execution in which they are running. |
| interface | [**DataInputStream**](http://docs.google.com/org/omg/CORBA/DataInputStream.html)            Defines the methods used to read primitive data types from input streams for unmarshaling custom value types. |
| interface | [**DataOutputStream**](http://docs.google.com/org/omg/CORBA/DataOutputStream.html)            Defines the methods used to write primitive data types to output streams for marshalling custom value types. |
| interface | [**DomainManager**](http://docs.google.com/org/omg/CORBA/DomainManager.html)            Provides mechanisms for establishing and navigating relationships to superior and subordinate domains, as well as for creating and accessing policies. |
| interface | [**IDLType**](http://docs.google.com/org/omg/CORBA/IDLType.html)            An abstract interface inherited by all Interface Repository (IR) objects that represent OMG IDL types. |
| interface | [**IRObject**](http://docs.google.com/org/omg/CORBA/IRObject.html)            An IRObject IDL interface represents the most generic interface from which all other Interface Repository interfaces are derived, even the Repository itself. |
| interface | [**Policy**](http://docs.google.com/org/omg/CORBA/Policy.html)            Interfaces derived from the Policy interface allow an ORB or CORBA service access to certain choices that affect its operation. |

| Classes in [org.omg.CORBA](http://docs.google.com/org/omg/CORBA/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**\_IDLTypeStub**](http://docs.google.com/org/omg/CORBA/_IDLTypeStub.html)            The Stub for IDLType. |
| class | [**\_PolicyStub**](http://docs.google.com/org/omg/CORBA/_PolicyStub.html)            The Stub for Policy. |
| class | [**ACTIVITY\_COMPLETED**](http://docs.google.com/org/omg/CORBA/ACTIVITY_COMPLETED.html)            The ACTIVITY\_COMPLETED system exception may be raised on any method for which Activity context is accessed. |
| class | [**ACTIVITY\_REQUIRED**](http://docs.google.com/org/omg/CORBA/ACTIVITY_REQUIRED.html)            The ACTIVITY\_REQUIRED system exception may be raised on any method for which an Activity context is required. |
| class | [**Any**](http://docs.google.com/org/omg/CORBA/Any.html)            Serves as a container for any data that can be described in IDL or for any IDL primitive type. |
| class | [**BAD\_CONTEXT**](http://docs.google.com/org/omg/CORBA/BAD_CONTEXT.html)            Exception thrown when an operation is invoked by a client but the passed context does not contain the context values required by the operation. |
| class | [**BAD\_INV\_ORDER**](http://docs.google.com/org/omg/CORBA/BAD_INV_ORDER.html)            This exception indicates that the caller has invoked operations in the wrong order. |
| class | [**BAD\_OPERATION**](http://docs.google.com/org/omg/CORBA/BAD_OPERATION.html)            Exception thrown when an object reference denotes an existing object, but that the object does not support the operation that was invoked. |
| class | [**BAD\_PARAM**](http://docs.google.com/org/omg/CORBA/BAD_PARAM.html)            Exception thrown when a parameter passed to a call is out of range or otherwise considered illegal. |
| class | [**BAD\_QOS**](http://docs.google.com/org/omg/CORBA/BAD_QOS.html)            The BAD\_QOS exception is raised whenever an object cannot support the quality of service required by an invocation parameter that has a quality of service semantics associated with it. |
| class | [**BAD\_TYPECODE**](http://docs.google.com/org/omg/CORBA/BAD_TYPECODE.html)            Exception thrown when the ORB has encountered a malformed type code (for example, a type code with an invalid TCKind value). |
| class | [**Bounds**](http://docs.google.com/org/omg/CORBA/Bounds.html)            A user exception thrown when a parameter is not within the legal bounds for the object that a method is trying to access. |
| class | [**CODESET\_INCOMPATIBLE**](http://docs.google.com/org/omg/CORBA/CODESET_INCOMPATIBLE.html)            This exception is raised whenever meaningful communication is not possible between client and server native code sets. |
| class | [**COMM\_FAILURE**](http://docs.google.com/org/omg/CORBA/COMM_FAILURE.html)            This exception is raised if communication is lost while an operation is in progress, after the request was sent by the client, but before the reply from the server has been returned to the client. |
| class | [**CompletionStatus**](http://docs.google.com/org/omg/CORBA/CompletionStatus.html)            An object that indicates whether a method had completed running when a SystemException was thrown. |
| class | [**DATA\_CONVERSION**](http://docs.google.com/org/omg/CORBA/DATA_CONVERSION.html)            This exception is raised if an ORB cannot convert the representation of data as marshaled into its native representation or vice-versa. |
| class | [**DefinitionKind**](http://docs.google.com/org/omg/CORBA/DefinitionKind.html)            The class that provides the constants used to identify the type of an Interface Repository object. |
| class | [**FREE\_MEM**](http://docs.google.com/org/omg/CORBA/FREE_MEM.html)            Exception thrown when the ORB failed in an attempt to free dynamic memory, for example because of heap corruption or memory segments being locked. |
| class | [**IMP\_LIMIT**](http://docs.google.com/org/omg/CORBA/IMP_LIMIT.html)            This exception indicates that an implementation limit was exceeded in the ORB run time. |
| class | [**INITIALIZE**](http://docs.google.com/org/omg/CORBA/INITIALIZE.html)            Exception thrown when an ORB has encountered a failure during its initialization, such as failure to acquire networking resources or detecting a configuration error. |
| class | [**INTERNAL**](http://docs.google.com/org/omg/CORBA/INTERNAL.html)            This exception indicates an internal failure in an ORB, for example, if an ORB has detected corruption of its internal data structures. |
| class | [**INTF\_REPOS**](http://docs.google.com/org/omg/CORBA/INTF_REPOS.html)            Exception raised when an ORB cannot reach the interface repository, or some other failure relating to the interface repository is detected. |
| class | [**INV\_FLAG**](http://docs.google.com/org/omg/CORBA/INV_FLAG.html)            Exception thrown when an invalid flag was passed to an operation (for example, when creating a DII request). |
| class | [**INV\_IDENT**](http://docs.google.com/org/omg/CORBA/INV_IDENT.html)            This exception indicates that an IDL identifier is syntactically invalid. |
| class | [**INV\_OBJREF**](http://docs.google.com/org/omg/CORBA/INV_OBJREF.html)            This exception indicates that an object reference is internally malformed. |
| class | [**INV\_POLICY**](http://docs.google.com/org/omg/CORBA/INV_POLICY.html)            Standard exception thrown when an invocation cannot be made because of an incompatibility between Policy overrides that apply to the particular invocation. |
| class | [**INVALID\_ACTIVITY**](http://docs.google.com/org/omg/CORBA/INVALID_ACTIVITY.html)            The INVALID\_ACTIVITY system exception may be raised on the Activity or Transaction services' resume methods if a transaction or Activity is resumed in a context different to that from which it was suspended. |
| class | [**INVALID\_TRANSACTION**](http://docs.google.com/org/omg/CORBA/INVALID_TRANSACTION.html)            Exception thrown when the request carried an invalid transaction context. |
| class | [**MARSHAL**](http://docs.google.com/org/omg/CORBA/MARSHAL.html)            A request or reply from the network is structurally invalid. |
| class | [**NameValuePair**](http://docs.google.com/org/omg/CORBA/NameValuePair.html)            Associates a name with a value that is an attribute of an IDL struct, and is used in the DynStruct APIs. |
| class | [**NO\_IMPLEMENT**](http://docs.google.com/org/omg/CORBA/NO_IMPLEMENT.html)            This exception indicates that even though the operation that was invoked exists (it has an IDL definition), no implementation for that operation exists. |
| class | [**NO\_MEMORY**](http://docs.google.com/org/omg/CORBA/NO_MEMORY.html)            Exception thrown when the ORB run time has run out of memory. |
| class | [**NO\_PERMISSION**](http://docs.google.com/org/omg/CORBA/NO_PERMISSION.html)            Exception thrown when an invocation failed because the caller has insufficient privileges. |
| class | [**NO\_RESOURCES**](http://docs.google.com/org/omg/CORBA/NO_RESOURCES.html)            Exception thrown when the ORB has encountered some general resource limitation. |
| class | [**NO\_RESPONSE**](http://docs.google.com/org/omg/CORBA/NO_RESPONSE.html)            This exception is raised if a client attempts to retrieve the result of a deferred synchronous call, but the response for the request is not yet available. |
| class | [**OBJ\_ADAPTER**](http://docs.google.com/org/omg/CORBA/OBJ_ADAPTER.html)            This exception typically indicates an administrative mismatch, for example, a server may have made an attempt to register itself with an implementation repository under a name that is already in use, or is unknown to the repository. |
| class | [**OBJECT\_NOT\_EXIST**](http://docs.google.com/org/omg/CORBA/OBJECT_NOT_EXIST.html)            Exception raised whenever an invocation on a deleted object was performed. |
| class | [**ParameterMode**](http://docs.google.com/org/omg/CORBA/ParameterMode.html)            Enumeration of parameter modes for Parameter. |
| class | [**PERSIST\_STORE**](http://docs.google.com/org/omg/CORBA/PERSIST_STORE.html)            This exception indicates a persistent storage failure, for example, failure to establish a database connection or corruption of a database. |
| class | [**PolicyError**](http://docs.google.com/org/omg/CORBA/PolicyError.html)            A user exception thrown when a policy error occurs. |
| class | [**REBIND**](http://docs.google.com/org/omg/CORBA/REBIND.html)            REBIND is raised when the current effective RebindPolicy, has a value of NO\_REBIND or NO\_RECONNECT and an invocation on a bound object reference results in a LocateReply message with status OBJECT\_FORWARD or a Reply message with status LOCATION\_FORWARD. |
| class | [**ServiceDetail**](http://docs.google.com/org/omg/CORBA/ServiceDetail.html)            An object that represents an ORB service: its service\_detail\_type field contains the type of the ORB service, and its service\_detail field contains a description of the ORB service. |
| class | [**ServiceInformation**](http://docs.google.com/org/omg/CORBA/ServiceInformation.html)            An IDL struct in the CORBA module that stores information about a CORBA service available in the ORB implementation and is obtained from the ORB.get\_service\_information method. |
| class | [**SetOverrideType**](http://docs.google.com/org/omg/CORBA/SetOverrideType.html)            The mapping of a CORBA enum tagging SET\_OVERRIDE and ADD\_OVERRIDE, which indicate whether policies should replace the existing policies of an Object or be added to them. |
| class | [**StructMember**](http://docs.google.com/org/omg/CORBA/StructMember.html)            Describes a member of an IDL struct in the Interface Repository, including the name of the struct member, the type of the struct member, and the typedef that represents the IDL type of the struct member described the struct member object. |
| class | [**SystemException**](http://docs.google.com/org/omg/CORBA/SystemException.html)            The root class for all CORBA standard exceptions. |
| class | [**TIMEOUT**](http://docs.google.com/org/omg/CORBA/TIMEOUT.html)            TIMEOUT is raised when no delivery has been made and the specified time-to-live period has been exceeded. |
| class | [**TRANSACTION\_MODE**](http://docs.google.com/org/omg/CORBA/TRANSACTION_MODE.html)            The CORBA TRANSACTION\_MODE exception is thrown by the client ORB if it detects a mismatch between the InvocationPolicy in the IOR and the chosen invocation path (i.e, direct or routed invocation). |
| class | [**TRANSACTION\_REQUIRED**](http://docs.google.com/org/omg/CORBA/TRANSACTION_REQUIRED.html)            Exception indicates that the request carried a null transaction context, but an active transaction is required. |
| class | [**TRANSACTION\_ROLLEDBACK**](http://docs.google.com/org/omg/CORBA/TRANSACTION_ROLLEDBACK.html)            Exception thrown when the transaction associated with the request has already been rolled back or marked to roll back. |
| class | [**TRANSACTION\_UNAVAILABLE**](http://docs.google.com/org/omg/CORBA/TRANSACTION_UNAVAILABLE.html)            The CORBA TRANSACTION\_UNAVAILABLE exception is thrown by the ORB when it cannot process a transaction service context because its connection to the Transaction Service has been abnormally terminated. |
| class | [**TRANSIENT**](http://docs.google.com/org/omg/CORBA/TRANSIENT.html)            Exception thrown when the ORB attempted to reach an object and failed. |
| class | [**TypeCode**](http://docs.google.com/org/omg/CORBA/TypeCode.html)            A container for information about a specific CORBA data type. |
| class | [**UnionMember**](http://docs.google.com/org/omg/CORBA/UnionMember.html)            A description in the Interface Repository of a member of an IDL union. |
| class | [**UNKNOWN**](http://docs.google.com/org/omg/CORBA/UNKNOWN.html)            This exception is raised if an operation implementation throws a non-CORBA exception (such as an exception specific to the implementation's programming language), or if an operation raises a user exception that does not appear in the operation's raises expression. |
| class | [**UnknownUserException**](http://docs.google.com/org/omg/CORBA/UnknownUserException.html)            A class that contains user exceptions returned by the server. |
| class | [**UserException**](http://docs.google.com/org/omg/CORBA/UserException.html)            The root class for CORBA IDL-defined user exceptions. |
| class | [**ValueMember**](http://docs.google.com/org/omg/CORBA/ValueMember.html)            A description in the Interface Repository of a member of a value object. |
| class | [**WrongTransaction**](http://docs.google.com/org/omg/CORBA/WrongTransaction.html)            The CORBA WrongTransaction user-defined exception. |

| Fields in [org.omg.CORBA](http://docs.google.com/org/omg/CORBA/package-summary.html) declared as [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **ValueBaseHolder.**[**value**](http://docs.google.com/org/omg/CORBA/ValueBaseHolder.html#value)            The java.io.Serializable value held by this ValueBaseHolder object. |

| Methods in [org.omg.CORBA](http://docs.google.com/org/omg/CORBA/package-summary.html) that return [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| abstract  [Serializable](http://docs.google.com/java/io/Serializable.html) | **Any.**[**extract\_Value**](http://docs.google.com/org/omg/CORBA/Any.html#extract_Value())()            Extracts the java.io.Serializable object in this Any object's value field. |
| static [Serializable](http://docs.google.com/java/io/Serializable.html) | **ValueBaseHelper.**[**extract**](http://docs.google.com/org/omg/CORBA/ValueBaseHelper.html#extract(org.omg.CORBA.Any))([Any](http://docs.google.com/org/omg/CORBA/Any.html) a) |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **DynAny.**[**get\_val**](http://docs.google.com/org/omg/CORBA/DynAny.html#get_val())()  **Deprecated.** Retrieves the java.io.Serializable object contained in this DynAny object. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **DataInputStream.**[**read\_Value**](http://docs.google.com/org/omg/CORBA/DataInputStream.html#read_Value())()            Reads an IDL value type from the input stream. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **WStringValueHelper.**[**read\_value**](http://docs.google.com/org/omg/CORBA/WStringValueHelper.html#read_value(org.omg.CORBA.portable.InputStream))([InputStream](http://docs.google.com/org/omg/CORBA/portable/InputStream.html) istream) |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **StringValueHelper.**[**read\_value**](http://docs.google.com/org/omg/CORBA/StringValueHelper.html#read_value(org.omg.CORBA.portable.InputStream))([InputStream](http://docs.google.com/org/omg/CORBA/portable/InputStream.html) istream) |
| static [Serializable](http://docs.google.com/java/io/Serializable.html) | **ValueBaseHelper.**[**read**](http://docs.google.com/org/omg/CORBA/ValueBaseHelper.html#read(org.omg.CORBA.portable.InputStream))([InputStream](http://docs.google.com/org/omg/CORBA/portable/InputStream.html) istream) |

| Methods in [org.omg.CORBA](http://docs.google.com/org/omg/CORBA/package-summary.html) with parameters of type [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| void | **DynAny.**[**insert\_val**](http://docs.google.com/org/omg/CORBA/DynAny.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)  **Deprecated.** Inserts the given java.io.Serializable object as the value for this DynAny object. |
| abstract  void | **Any.**[**insert\_Value**](http://docs.google.com/org/omg/CORBA/Any.html#insert_Value(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) v)            Inserts the given java.io.Serializable object into this Any object's value field. |
| abstract  void | **Any.**[**insert\_Value**](http://docs.google.com/org/omg/CORBA/Any.html#insert_Value(java.io.Serializable,%20org.omg.CORBA.TypeCode))([Serializable](http://docs.google.com/java/io/Serializable.html) v, [TypeCode](http://docs.google.com/org/omg/CORBA/TypeCode.html) t)            Inserts the given java.io.Serializable object into this Any object's value field. |
| static void | **ValueBaseHelper.**[**insert**](http://docs.google.com/org/omg/CORBA/ValueBaseHelper.html#insert(org.omg.CORBA.Any,%20java.io.Serializable))([Any](http://docs.google.com/org/omg/CORBA/Any.html) a, [Serializable](http://docs.google.com/java/io/Serializable.html) that) |
| void | **WStringValueHelper.**[**write\_value**](http://docs.google.com/org/omg/CORBA/WStringValueHelper.html#write_value(org.omg.CORBA.portable.OutputStream,%20java.io.Serializable))([OutputStream](http://docs.google.com/org/omg/CORBA/portable/OutputStream.html) ostream, [Serializable](http://docs.google.com/java/io/Serializable.html) value) |
| void | **StringValueHelper.**[**write\_value**](http://docs.google.com/org/omg/CORBA/StringValueHelper.html#write_value(org.omg.CORBA.portable.OutputStream,%20java.io.Serializable))([OutputStream](http://docs.google.com/org/omg/CORBA/portable/OutputStream.html) ostream, [Serializable](http://docs.google.com/java/io/Serializable.html) value) |
| void | **DataOutputStream.**[**write\_Value**](http://docs.google.com/org/omg/CORBA/DataOutputStream.html#write_Value(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Writes the IDL value type value to the output stream. |
| static void | **ValueBaseHelper.**[**write**](http://docs.google.com/org/omg/CORBA/ValueBaseHelper.html#write(org.omg.CORBA.portable.OutputStream,%20java.io.Serializable))([OutputStream](http://docs.google.com/org/omg/CORBA/portable/OutputStream.html) ostream, [Serializable](http://docs.google.com/java/io/Serializable.html) value) |

| Constructors in [org.omg.CORBA](http://docs.google.com/org/omg/CORBA/package-summary.html) with parameters of type [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [**ValueBaseHolder**](http://docs.google.com/org/omg/CORBA/ValueBaseHolder.html#ValueBaseHolder(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) initial)            Constructs a new ValueBaseHolder object with its value field initialized to the given java.io.Serializable. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CORBA\_2\_3.portable](http://docs.google.com/org/omg/CORBA_2_3/portable/package-summary.html) | |
| --- | --- |

| Methods in [org.omg.CORBA\_2\_3.portable](http://docs.google.com/org/omg/CORBA_2_3/portable/package-summary.html) that return [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **InputStream.**[**read\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/InputStream.html#read_value())()            Unmarshalls a value type from the input stream. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **InputStream.**[**read\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/InputStream.html#read_value(org.omg.CORBA.portable.BoxedValueHelper))([BoxedValueHelper](http://docs.google.com/org/omg/CORBA/portable/BoxedValueHelper.html) factory)            Unmarshalls a value type from the input stream. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **InputStream.**[**read\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/InputStream.html#read_value(java.lang.Class))([Class](http://docs.google.com/java/lang/Class.html) clz)            Unmarshalls a value type from the input stream. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **InputStream.**[**read\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/InputStream.html#read_value(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Unmarshalls a value type from the input stream. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **InputStream.**[**read\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/InputStream.html#read_value(java.lang.String))([String](http://docs.google.com/java/lang/String.html) rep\_id)            Unmarshalls a value type from the input stream. |

| Methods in [org.omg.CORBA\_2\_3.portable](http://docs.google.com/org/omg/CORBA_2_3/portable/package-summary.html) with parameters of type [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **InputStream.**[**read\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/InputStream.html#read_value(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Unmarshalls a value type from the input stream. |
| void | **OutputStream.**[**write\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/OutputStream.html#write_value(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Marshals a value type to the output stream. |
| void | **OutputStream.**[**write\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/OutputStream.html#write_value(java.io.Serializable,%20org.omg.CORBA.portable.BoxedValueHelper))([Serializable](http://docs.google.com/java/io/Serializable.html) value, [BoxedValueHelper](http://docs.google.com/org/omg/CORBA/portable/BoxedValueHelper.html) factory)            Marshals a value type to the output stream. |
| void | **OutputStream.**[**write\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/OutputStream.html#write_value(java.io.Serializable,%20java.lang.Class))([Serializable](http://docs.google.com/java/io/Serializable.html) value, [Class](http://docs.google.com/java/lang/Class.html) clz)            Marshals a value type to the output stream. |
| void | **OutputStream.**[**write\_value**](http://docs.google.com/org/omg/CORBA_2_3/portable/OutputStream.html#write_value(java.io.Serializable,%20java.lang.String))([Serializable](http://docs.google.com/java/io/Serializable.html) value, [String](http://docs.google.com/java/lang/String.html) repository\_id)            Marshals a value type to the output stream. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CORBA.DynAnyPackage](http://docs.google.com/org/omg/CORBA/DynAnyPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.CORBA.DynAnyPackage](http://docs.google.com/org/omg/CORBA/DynAnyPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**Invalid**](http://docs.google.com/org/omg/CORBA/DynAnyPackage/Invalid.html)            Invalid is thrown by dynamic any operations when a bad DynAny or Any is passed as a parameter. |
| class | [**InvalidSeq**](http://docs.google.com/org/omg/CORBA/DynAnyPackage/InvalidSeq.html)            The InvalidSeq exception is thrown by all operations on dynamic anys that take a sequence (Java array) as an argument, when that sequence is invalid. |
| class | [**InvalidValue**](http://docs.google.com/org/omg/CORBA/DynAnyPackage/InvalidValue.html) |
| class | [**TypeMismatch**](http://docs.google.com/org/omg/CORBA/DynAnyPackage/TypeMismatch.html)            TypeMismatch is thrown by dynamic any accessor methods when type of the actual contents do not match what is trying to be accessed. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CORBA.ORBPackage](http://docs.google.com/org/omg/CORBA/ORBPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.CORBA.ORBPackage](http://docs.google.com/org/omg/CORBA/ORBPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**InconsistentTypeCode**](http://docs.google.com/org/omg/CORBA/ORBPackage/InconsistentTypeCode.html)            InconsistentTypeCode is thrown when an attempt is made to create a dynamic any with a type code that does not match the particular subclass of DynAny. |
| class | [**InvalidName**](http://docs.google.com/org/omg/CORBA/ORBPackage/InvalidName.html)            The InvalidName exception is raised when ORB.resolve\_initial\_references is passed a name for which there is no initial reference. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CORBA.portable](http://docs.google.com/org/omg/CORBA/portable/package-summary.html) | |
| --- | --- |

| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CORBA.portable](http://docs.google.com/org/omg/CORBA/portable/package-summary.html) | |
| --- | --- |
| interface | [**CustomValue**](http://docs.google.com/org/omg/CORBA/portable/CustomValue.html)            An extension of ValueBase that is implemented by custom value types. |
| interface | [**IDLEntity**](http://docs.google.com/org/omg/CORBA/portable/IDLEntity.html)            An interface with no members whose only purpose is to serve as a marker indicating that an implementing class is a Java value type from IDL that has a corresponding Helper class. |
| interface | [**StreamableValue**](http://docs.google.com/org/omg/CORBA/portable/StreamableValue.html)            Defines the base type for all non-boxed IDL valuetypes that are not custom marshaled. |
| interface | [**ValueBase**](http://docs.google.com/org/omg/CORBA/portable/ValueBase.html)            The generated Java classes corresponding to valuetype IDL types implement this interface. |

| Classes in [org.omg.CORBA.portable](http://docs.google.com/org/omg/CORBA/portable/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**ApplicationException**](http://docs.google.com/org/omg/CORBA/portable/ApplicationException.html)            This class is used for reporting application level exceptions between ORBs and stubs. |
| class | [**IndirectionException**](http://docs.google.com/org/omg/CORBA/portable/IndirectionException.html)            The Indirection exception is a Java specific system exception. |
| class | [**RemarshalException**](http://docs.google.com/org/omg/CORBA/portable/RemarshalException.html)            This class is used for reporting locate forward exceptions and object forward GIOP messages back to the ORB. |
| class | [**UnknownException**](http://docs.google.com/org/omg/CORBA/portable/UnknownException.html)            The org.omg.CORBA.portable.UnknownException is used for reporting unknown exceptions between ties and ORBs and between ORBs and stubs. |

| Methods in [org.omg.CORBA.portable](http://docs.google.com/org/omg/CORBA/portable/package-summary.html) that return [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **ValueFactory.**[**read\_value**](http://docs.google.com/org/omg/CORBA/portable/ValueFactory.html#read_value(org.omg.CORBA_2_3.portable.InputStream))([InputStream](http://docs.google.com/org/omg/CORBA_2_3/portable/InputStream.html) is)            Is called by the ORB runtime while in the process of unmarshaling a value type. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **BoxedValueHelper.**[**read\_value**](http://docs.google.com/org/omg/CORBA/portable/BoxedValueHelper.html#read_value(org.omg.CORBA.portable.InputStream))([InputStream](http://docs.google.com/org/omg/CORBA/portable/InputStream.html) is) |

| Methods in [org.omg.CORBA.portable](http://docs.google.com/org/omg/CORBA/portable/package-summary.html) with parameters of type [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| void | **BoxedValueHelper.**[**write\_value**](http://docs.google.com/org/omg/CORBA/portable/BoxedValueHelper.html#write_value(org.omg.CORBA.portable.OutputStream,%20java.io.Serializable))([OutputStream](http://docs.google.com/org/omg/CORBA/portable/OutputStream.html) os, [Serializable](http://docs.google.com/java/io/Serializable.html) value) |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CORBA.TypeCodePackage](http://docs.google.com/org/omg/CORBA/TypeCodePackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.CORBA.TypeCodePackage](http://docs.google.com/org/omg/CORBA/TypeCodePackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**BadKind**](http://docs.google.com/org/omg/CORBA/TypeCodePackage/BadKind.html)            The exception BadKind is thrown when an inappropriate operation is invoked on a TypeCode object. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CosNaming](http://docs.google.com/org/omg/CosNaming/package-summary.html) | |
| --- | --- |

| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CosNaming](http://docs.google.com/org/omg/CosNaming/package-summary.html) | |
| --- | --- |
| interface | [**BindingIterator**](http://docs.google.com/org/omg/CosNaming/BindingIterator.html)            The BindingIterator interface allows a client to iterate through the bindings using the next\_one or next\_n operations. |
| interface | [**NamingContext**](http://docs.google.com/org/omg/CosNaming/NamingContext.html)            A naming context is an object that contains a set of name bindings in which each name is unique. |
| interface | [**NamingContextExt**](http://docs.google.com/org/omg/CosNaming/NamingContextExt.html)            NamingContextExt is the extension of NamingContext which contains a set of name bindings in which each name is unique and is part of Interoperable Naming Service. |

| Classes in [org.omg.CosNaming](http://docs.google.com/org/omg/CosNaming/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**\_BindingIteratorImplBase**](http://docs.google.com/org/omg/CosNaming/_BindingIteratorImplBase.html) |
| class | [**\_BindingIteratorStub**](http://docs.google.com/org/omg/CosNaming/_BindingIteratorStub.html)            The BindingIterator interface allows a client to iterate through the bindings using the next\_one or next\_n operations. |
| class | [**\_NamingContextExtStub**](http://docs.google.com/org/omg/CosNaming/_NamingContextExtStub.html)            NamingContextExt is the extension of NamingContext which contains a set of name bindings in which each name is unique and is part of Interoperable Naming Service. |
| class | [**\_NamingContextImplBase**](http://docs.google.com/org/omg/CosNaming/_NamingContextImplBase.html) |
| class | [**\_NamingContextStub**](http://docs.google.com/org/omg/CosNaming/_NamingContextStub.html)            A naming context is an object that contains a set of name bindings in which each name is unique. |
| class | [**BindingType**](http://docs.google.com/org/omg/CosNaming/BindingType.html)            Specifies whether the given binding is for a object (that is not a naming context) or for a naming context. |
| class | [**NameComponent**](http://docs.google.com/org/omg/CosNaming/NameComponent.html)            org/omg/CosNaming/NameComponent.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CosNaming.NamingContextExtPackage](http://docs.google.com/org/omg/CosNaming/NamingContextExtPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.CosNaming.NamingContextExtPackage](http://docs.google.com/org/omg/CosNaming/NamingContextExtPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**InvalidAddress**](http://docs.google.com/org/omg/CosNaming/NamingContextExtPackage/InvalidAddress.html)            org/omg/CosNaming/NamingContextExtPackage/InvalidAddress.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.CosNaming.NamingContextPackage](http://docs.google.com/org/omg/CosNaming/NamingContextPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.CosNaming.NamingContextPackage](http://docs.google.com/org/omg/CosNaming/NamingContextPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AlreadyBound**](http://docs.google.com/org/omg/CosNaming/NamingContextPackage/AlreadyBound.html)            org/omg/CosNaming/NamingContextPackage/AlreadyBound.java . |
| class | [**CannotProceed**](http://docs.google.com/org/omg/CosNaming/NamingContextPackage/CannotProceed.html)            org/omg/CosNaming/NamingContextPackage/CannotProceed.java . |
| class | [**NotEmpty**](http://docs.google.com/org/omg/CosNaming/NamingContextPackage/NotEmpty.html)            org/omg/CosNaming/NamingContextPackage/NotEmpty.java . |
| class | [**NotFound**](http://docs.google.com/org/omg/CosNaming/NamingContextPackage/NotFound.html)            org/omg/CosNaming/NamingContextPackage/NotFound.java . |
| class | [**NotFoundReason**](http://docs.google.com/org/omg/CosNaming/NamingContextPackage/NotFoundReason.html)            Indicates the reason for not able to resolve. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.Dynamic](http://docs.google.com/org/omg/Dynamic/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.Dynamic](http://docs.google.com/org/omg/Dynamic/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**Parameter**](http://docs.google.com/org/omg/Dynamic/Parameter.html)            org/omg/Dynamic/Parameter.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.DynamicAny](http://docs.google.com/org/omg/DynamicAny/package-summary.html) | |
| --- | --- |

| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.DynamicAny](http://docs.google.com/org/omg/DynamicAny/package-summary.html) | |
| --- | --- |
| interface | [**DynAny**](http://docs.google.com/org/omg/DynamicAny/DynAny.html)            Any values can be dynamically interpreted (traversed) and constructed through DynAny objects. |
| interface | [**DynAnyFactory**](http://docs.google.com/org/omg/DynamicAny/DynAnyFactory.html)            DynAny objects can be created by invoking operations on the DynAnyFactory object. |
| interface | [**DynArray**](http://docs.google.com/org/omg/DynamicAny/DynArray.html)            DynArray objects support the manipulation of IDL arrays. |
| interface | [**DynEnum**](http://docs.google.com/org/omg/DynamicAny/DynEnum.html)            DynEnum objects support the manipulation of IDL enumerated values. |
| interface | [**DynFixed**](http://docs.google.com/org/omg/DynamicAny/DynFixed.html)            DynFixed objects support the manipulation of IDL fixed values. |
| interface | [**DynSequence**](http://docs.google.com/org/omg/DynamicAny/DynSequence.html)            DynSequence objects support the manipulation of IDL sequences. |
| interface | [**DynStruct**](http://docs.google.com/org/omg/DynamicAny/DynStruct.html)            DynStruct objects support the manipulation of IDL struct and exception values. |
| interface | [**DynUnion**](http://docs.google.com/org/omg/DynamicAny/DynUnion.html)            DynUnion objects support the manipulation of IDL unions. |
| interface | [**DynValue**](http://docs.google.com/org/omg/DynamicAny/DynValue.html)            DynValue objects support the manipulation of IDL non-boxed value types. |
| interface | [**DynValueBox**](http://docs.google.com/org/omg/DynamicAny/DynValueBox.html)            DynValueBox objects support the manipulation of IDL boxed value types. |
| interface | [**DynValueCommon**](http://docs.google.com/org/omg/DynamicAny/DynValueCommon.html)            DynValueCommon provides operations supported by both the DynValue and DynValueBox interfaces. |

| Classes in [org.omg.DynamicAny](http://docs.google.com/org/omg/DynamicAny/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**\_DynAnyFactoryStub**](http://docs.google.com/org/omg/DynamicAny/_DynAnyFactoryStub.html)            DynAny objects can be created by invoking operations on the DynAnyFactory object. |
| class | [**\_DynAnyStub**](http://docs.google.com/org/omg/DynamicAny/_DynAnyStub.html)            Any values can be dynamically interpreted (traversed) and constructed through DynAny objects. |
| class | [**\_DynArrayStub**](http://docs.google.com/org/omg/DynamicAny/_DynArrayStub.html)            DynArray objects support the manipulation of IDL arrays. |
| class | [**\_DynEnumStub**](http://docs.google.com/org/omg/DynamicAny/_DynEnumStub.html)            DynEnum objects support the manipulation of IDL enumerated values. |
| class | [**\_DynFixedStub**](http://docs.google.com/org/omg/DynamicAny/_DynFixedStub.html)            DynFixed objects support the manipulation of IDL fixed values. |
| class | [**\_DynSequenceStub**](http://docs.google.com/org/omg/DynamicAny/_DynSequenceStub.html)            DynSequence objects support the manipulation of IDL sequences. |
| class | [**\_DynStructStub**](http://docs.google.com/org/omg/DynamicAny/_DynStructStub.html)            DynStruct objects support the manipulation of IDL struct and exception values. |
| class | [**\_DynUnionStub**](http://docs.google.com/org/omg/DynamicAny/_DynUnionStub.html)            DynUnion objects support the manipulation of IDL unions. |
| class | [**\_DynValueStub**](http://docs.google.com/org/omg/DynamicAny/_DynValueStub.html)            DynValue objects support the manipulation of IDL non-boxed value types. |
| class | [**NameDynAnyPair**](http://docs.google.com/org/omg/DynamicAny/NameDynAnyPair.html)            org/omg/DynamicAny/NameDynAnyPair.java . |

| Methods in [org.omg.DynamicAny](http://docs.google.com/org/omg/DynamicAny/package-summary.html) that return [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **\_DynSequenceStub.**[**get\_val**](http://docs.google.com/org/omg/DynamicAny/_DynSequenceStub.html#get_val())()            Extracts a Serializable object from this DynAny. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **\_DynFixedStub.**[**get\_val**](http://docs.google.com/org/omg/DynamicAny/_DynFixedStub.html#get_val())()            Extracts a Serializable object from this DynAny. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **\_DynEnumStub.**[**get\_val**](http://docs.google.com/org/omg/DynamicAny/_DynEnumStub.html#get_val())()            Extracts a Serializable object from this DynAny. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **\_DynArrayStub.**[**get\_val**](http://docs.google.com/org/omg/DynamicAny/_DynArrayStub.html#get_val())()            Extracts a Serializable object from this DynAny. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **\_DynValueStub.**[**get\_val**](http://docs.google.com/org/omg/DynamicAny/_DynValueStub.html#get_val())()            Extracts a Serializable object from this DynAny. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **\_DynAnyStub.**[**get\_val**](http://docs.google.com/org/omg/DynamicAny/_DynAnyStub.html#get_val())()            Extracts a Serializable object from this DynAny. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **\_DynUnionStub.**[**get\_val**](http://docs.google.com/org/omg/DynamicAny/_DynUnionStub.html#get_val())()            Extracts a Serializable object from this DynAny. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **\_DynStructStub.**[**get\_val**](http://docs.google.com/org/omg/DynamicAny/_DynStructStub.html#get_val())()            Extracts a Serializable object from this DynAny. |
| [Serializable](http://docs.google.com/java/io/Serializable.html) | **DynAnyOperations.**[**get\_val**](http://docs.google.com/org/omg/DynamicAny/DynAnyOperations.html#get_val())()            Extracts a Serializable object from this DynAny. |

| Methods in [org.omg.DynamicAny](http://docs.google.com/org/omg/DynamicAny/package-summary.html) with parameters of type [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| void | **\_DynSequenceStub.**[**insert\_val**](http://docs.google.com/org/omg/DynamicAny/_DynSequenceStub.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Inserts a reference to a Serializable object into this DynAny. |
| void | **\_DynFixedStub.**[**insert\_val**](http://docs.google.com/org/omg/DynamicAny/_DynFixedStub.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Inserts a reference to a Serializable object into this DynAny. |
| void | **\_DynEnumStub.**[**insert\_val**](http://docs.google.com/org/omg/DynamicAny/_DynEnumStub.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Inserts a reference to a Serializable object into this DynAny. |
| void | **\_DynArrayStub.**[**insert\_val**](http://docs.google.com/org/omg/DynamicAny/_DynArrayStub.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Inserts a reference to a Serializable object into this DynAny. |
| void | **\_DynValueStub.**[**insert\_val**](http://docs.google.com/org/omg/DynamicAny/_DynValueStub.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Inserts a reference to a Serializable object into this DynAny. |
| void | **\_DynAnyStub.**[**insert\_val**](http://docs.google.com/org/omg/DynamicAny/_DynAnyStub.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Inserts a reference to a Serializable object into this DynAny. |
| void | **\_DynUnionStub.**[**insert\_val**](http://docs.google.com/org/omg/DynamicAny/_DynUnionStub.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Inserts a reference to a Serializable object into this DynAny. |
| void | **\_DynStructStub.**[**insert\_val**](http://docs.google.com/org/omg/DynamicAny/_DynStructStub.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Inserts a reference to a Serializable object into this DynAny. |
| void | **DynAnyOperations.**[**insert\_val**](http://docs.google.com/org/omg/DynamicAny/DynAnyOperations.html#insert_val(java.io.Serializable))([Serializable](http://docs.google.com/java/io/Serializable.html) value)            Inserts a reference to a Serializable object into this DynAny. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.IOP](http://docs.google.com/org/omg/IOP/package-summary.html) | |
| --- | --- |

| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.IOP](http://docs.google.com/org/omg/IOP/package-summary.html) | |
| --- | --- |
| interface | [**Codec**](http://docs.google.com/org/omg/IOP/Codec.html)            The formats of IOR components and service context data used by ORB services are often defined as CDR encapsulations encoding instances of IDL defined data types. |
| interface | [**CodecFactory**](http://docs.google.com/org/omg/IOP/CodecFactory.html)            Codecs are obtained from the CodecFactory. |

| Classes in [org.omg.IOP](http://docs.google.com/org/omg/IOP/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**Encoding**](http://docs.google.com/org/omg/IOP/Encoding.html)            org/omg/IOP/Encoding.java . |
| class | [**IOR**](http://docs.google.com/org/omg/IOP/IOR.html)            org/omg/IOP/IOR.java . |
| class | [**ServiceContext**](http://docs.google.com/org/omg/IOP/ServiceContext.html)            org/omg/IOP/ServiceContext.java . |
| class | [**TaggedComponent**](http://docs.google.com/org/omg/IOP/TaggedComponent.html)            org/omg/IOP/TaggedComponent.java . |
| class | [**TaggedProfile**](http://docs.google.com/org/omg/IOP/TaggedProfile.html)            org/omg/IOP/TaggedProfile.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.IOP.CodecFactoryPackage](http://docs.google.com/org/omg/IOP/CodecFactoryPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.IOP.CodecFactoryPackage](http://docs.google.com/org/omg/IOP/CodecFactoryPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**UnknownEncoding**](http://docs.google.com/org/omg/IOP/CodecFactoryPackage/UnknownEncoding.html)            org/omg/IOP/CodecFactoryPackage/UnknownEncoding.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.IOP.CodecPackage](http://docs.google.com/org/omg/IOP/CodecPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.IOP.CodecPackage](http://docs.google.com/org/omg/IOP/CodecPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**FormatMismatch**](http://docs.google.com/org/omg/IOP/CodecPackage/FormatMismatch.html)            org/omg/IOP/CodecPackage/FormatMismatch.java . |
| class | [**InvalidTypeForEncoding**](http://docs.google.com/org/omg/IOP/CodecPackage/InvalidTypeForEncoding.html)            org/omg/IOP/CodecPackage/InvalidTypeForEncoding.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.PortableInterceptor](http://docs.google.com/org/omg/PortableInterceptor/package-summary.html) | |
| --- | --- |

| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.PortableInterceptor](http://docs.google.com/org/omg/PortableInterceptor/package-summary.html) | |
| --- | --- |
| interface | [**ClientRequestInfo**](http://docs.google.com/org/omg/PortableInterceptor/ClientRequestInfo.html)            Request Information, accessible to client-side request interceptors. |
| interface | [**ClientRequestInterceptor**](http://docs.google.com/org/omg/PortableInterceptor/ClientRequestInterceptor.html)            Client-side request interceptor. |
| interface | [**Interceptor**](http://docs.google.com/org/omg/PortableInterceptor/Interceptor.html)            All Portable Interceptors implement Interceptor. |
| interface | [**IORInfo**](http://docs.google.com/org/omg/PortableInterceptor/IORInfo.html)            Provides the server-side ORB service with access to the applicable policies during IOR construction and the ability to add components. |
| interface | [**IORInterceptor**](http://docs.google.com/org/omg/PortableInterceptor/IORInterceptor.html)            Interceptor used to establish tagged components in the profiles within an IOR. |
| interface | [**IORInterceptor\_3\_0**](http://docs.google.com/org/omg/PortableInterceptor/IORInterceptor_3_0.html)            org/omg/PortableInterceptor/IORInterceptor\_3\_0.java . |
| interface | [**ObjectReferenceFactory**](http://docs.google.com/org/omg/PortableInterceptor/ObjectReferenceFactory.html)            The object reference factory. |
| interface | [**ObjectReferenceTemplate**](http://docs.google.com/org/omg/PortableInterceptor/ObjectReferenceTemplate.html)            The object reference template. |
| interface | [**ORBInitializer**](http://docs.google.com/org/omg/PortableInterceptor/ORBInitializer.html)            Facilitates interceptor registration and ORB initialization. |
| interface | [**ORBInitInfo**](http://docs.google.com/org/omg/PortableInterceptor/ORBInitInfo.html)            Passed to each ORBInitializer, allowing it to to register interceptors and perform other duties while the ORB is initializing. |
| interface | [**PolicyFactory**](http://docs.google.com/org/omg/PortableInterceptor/PolicyFactory.html)            Enables policy types to be constructed using CORBA.ORB.create\_policy. |
| interface | [**RequestInfo**](http://docs.google.com/org/omg/PortableInterceptor/RequestInfo.html)            Request Information, accessible to Interceptors. |
| interface | [**ServerRequestInfo**](http://docs.google.com/org/omg/PortableInterceptor/ServerRequestInfo.html)            Request Information, accessible to server-side request interceptors. |
| interface | [**ServerRequestInterceptor**](http://docs.google.com/org/omg/PortableInterceptor/ServerRequestInterceptor.html)            Server-side request interceptor. |

| Classes in [org.omg.PortableInterceptor](http://docs.google.com/org/omg/PortableInterceptor/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**InvalidSlot**](http://docs.google.com/org/omg/PortableInterceptor/InvalidSlot.html)            org/omg/PortableInterceptor/InvalidSlot.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.PortableInterceptor.ORBInitInfoPackage](http://docs.google.com/org/omg/PortableInterceptor/ORBInitInfoPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.PortableInterceptor.ORBInitInfoPackage](http://docs.google.com/org/omg/PortableInterceptor/ORBInitInfoPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**DuplicateName**](http://docs.google.com/org/omg/PortableInterceptor/ORBInitInfoPackage/DuplicateName.html)            org/omg/PortableInterceptor/ORBInitInfoPackage/DuplicateName.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.PortableServer](http://docs.google.com/org/omg/PortableServer/package-summary.html) | |
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| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.PortableServer](http://docs.google.com/org/omg/PortableServer/package-summary.html) | |
| --- | --- |
| interface | [**AdapterActivator**](http://docs.google.com/org/omg/PortableServer/AdapterActivator.html)            An adapter activator supplies a POA with the ability to create child POAs on demand, as a side-effect of receiving a request that names the child POA (or one of its children), or when find\_POA is called with an activate parameter value of TRUE. |
| interface | [**IdAssignmentPolicy**](http://docs.google.com/org/omg/PortableServer/IdAssignmentPolicy.html)            IdAssignmentPolicy specifies whether Object Ids in the created POA are generated by the application or by the ORB. |
| interface | [**IdUniquenessPolicy**](http://docs.google.com/org/omg/PortableServer/IdUniquenessPolicy.html)            The IdUniquenessPolicy specifies whether the servants activated in the created POA must have unique object i identities. |
| interface | [**ImplicitActivationPolicy**](http://docs.google.com/org/omg/PortableServer/ImplicitActivationPolicy.html)            This policy specifies whether implicit activation of servants is supported in the created POA. |
| interface | [**LifespanPolicy**](http://docs.google.com/org/omg/PortableServer/LifespanPolicy.html)            The LifespanPolicy specifies the lifespan of the objects implemented in the created POA. |
| interface | [**POA**](http://docs.google.com/org/omg/PortableServer/POA.html)            A POA object manages the implementation of a collection of objects. |
| interface | [**POAManager**](http://docs.google.com/org/omg/PortableServer/POAManager.html)            Each POA object has an associated POAManager object. |
| interface | [**RequestProcessingPolicy**](http://docs.google.com/org/omg/PortableServer/RequestProcessingPolicy.html)            This policy specifies how requests are processed by the created POA. |
| interface | [**ServantActivator**](http://docs.google.com/org/omg/PortableServer/ServantActivator.html)            When the POA has the RETAIN policy it uses servant managers that are ServantActivators. |
| interface | [**ServantLocator**](http://docs.google.com/org/omg/PortableServer/ServantLocator.html)            When the POA has the NON\_RETAIN policy it uses servant managers that are ServantLocators. |
| interface | [**ServantManager**](http://docs.google.com/org/omg/PortableServer/ServantManager.html)            A servant manager supplies a POA with the ability to activate objects on demand when the POA receives a request targeted at an inactive object. |
| interface | [**ServantRetentionPolicy**](http://docs.google.com/org/omg/PortableServer/ServantRetentionPolicy.html)            This policy specifies whether the created POA retains active servants in an Active Object Map. |
| interface | [**ThreadPolicy**](http://docs.google.com/org/omg/PortableServer/ThreadPolicy.html)            The ThreadPolicy specifies the threading model used with the created POA. |

| Classes in [org.omg.PortableServer](http://docs.google.com/org/omg/PortableServer/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**\_ServantActivatorStub**](http://docs.google.com/org/omg/PortableServer/_ServantActivatorStub.html)            When the POA has the RETAIN policy it uses servant managers that are ServantActivators. |
| class | [**\_ServantLocatorStub**](http://docs.google.com/org/omg/PortableServer/_ServantLocatorStub.html)            When the POA has the NON\_RETAIN policy it uses servant managers that are ServantLocators. |
| class | [**ForwardRequest**](http://docs.google.com/org/omg/PortableServer/ForwardRequest.html)            org/omg/PortableServer/ForwardRequest.java . |
| class | [**IdAssignmentPolicyValue**](http://docs.google.com/org/omg/PortableServer/IdAssignmentPolicyValue.html)            The IdAssignmentPolicyValue can have the following values. |
| class | [**IdUniquenessPolicyValue**](http://docs.google.com/org/omg/PortableServer/IdUniquenessPolicyValue.html)            IdUniquenessPolicyValue can have the following values. |
| class | [**ImplicitActivationPolicyValue**](http://docs.google.com/org/omg/PortableServer/ImplicitActivationPolicyValue.html)            ImplicitActivationPolicyValue has the following semantics. |
| class | [**LifespanPolicyValue**](http://docs.google.com/org/omg/PortableServer/LifespanPolicyValue.html)            The LifespanPolicyValue can have the following values. |
| class | [**RequestProcessingPolicyValue**](http://docs.google.com/org/omg/PortableServer/RequestProcessingPolicyValue.html)            The RequestProcessingPolicyValue can have the following values. |
| class | [**ServantRetentionPolicyValue**](http://docs.google.com/org/omg/PortableServer/ServantRetentionPolicyValue.html)            ServantRetentionPolicyValue can have the following values. |
| class | [**ThreadPolicyValue**](http://docs.google.com/org/omg/PortableServer/ThreadPolicyValue.html)            The ThreadPolicyValue can have the following values. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.PortableServer.CurrentPackage](http://docs.google.com/org/omg/PortableServer/CurrentPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.PortableServer.CurrentPackage](http://docs.google.com/org/omg/PortableServer/CurrentPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**NoContext**](http://docs.google.com/org/omg/PortableServer/CurrentPackage/NoContext.html)            org/omg/PortableServer/CurrentPackage/NoContext.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.PortableServer.POAManagerPackage](http://docs.google.com/org/omg/PortableServer/POAManagerPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.PortableServer.POAManagerPackage](http://docs.google.com/org/omg/PortableServer/POAManagerPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AdapterInactive**](http://docs.google.com/org/omg/PortableServer/POAManagerPackage/AdapterInactive.html)            org/omg/PortableServer/POAManagerPackage/AdapterInactive.java . |
| class | [**State**](http://docs.google.com/org/omg/PortableServer/POAManagerPackage/State.html)            Specifies the states for the POAManager |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.PortableServer.POAPackage](http://docs.google.com/org/omg/PortableServer/POAPackage/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.PortableServer.POAPackage](http://docs.google.com/org/omg/PortableServer/POAPackage/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**AdapterAlreadyExists**](http://docs.google.com/org/omg/PortableServer/POAPackage/AdapterAlreadyExists.html)            org/omg/PortableServer/POAPackage/AdapterAlreadyExists.java . |
| class | [**AdapterNonExistent**](http://docs.google.com/org/omg/PortableServer/POAPackage/AdapterNonExistent.html)            org/omg/PortableServer/POAPackage/AdapterNonExistent.java . |
| class | [**InvalidPolicy**](http://docs.google.com/org/omg/PortableServer/POAPackage/InvalidPolicy.html)            org/omg/PortableServer/POAPackage/InvalidPolicy.java . |
| class | [**NoServant**](http://docs.google.com/org/omg/PortableServer/POAPackage/NoServant.html)            org/omg/PortableServer/POAPackage/NoServant.java . |
| class | [**ObjectAlreadyActive**](http://docs.google.com/org/omg/PortableServer/POAPackage/ObjectAlreadyActive.html)            org/omg/PortableServer/POAPackage/ObjectAlreadyActive.java . |
| class | [**ObjectNotActive**](http://docs.google.com/org/omg/PortableServer/POAPackage/ObjectNotActive.html)            org/omg/PortableServer/POAPackage/ObjectNotActive.java . |
| class | [**ServantAlreadyActive**](http://docs.google.com/org/omg/PortableServer/POAPackage/ServantAlreadyActive.html)            org/omg/PortableServer/POAPackage/ServantAlreadyActive.java . |
| class | [**ServantNotActive**](http://docs.google.com/org/omg/PortableServer/POAPackage/ServantNotActive.html)            org/omg/PortableServer/POAPackage/ServantNotActive.java . |
| class | [**WrongAdapter**](http://docs.google.com/org/omg/PortableServer/POAPackage/WrongAdapter.html)            org/omg/PortableServer/POAPackage/WrongAdapter.java . |
| class | [**WrongPolicy**](http://docs.google.com/org/omg/PortableServer/POAPackage/WrongPolicy.html)            org/omg/PortableServer/POAPackage/WrongPolicy.java . |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.SendingContext](http://docs.google.com/org/omg/SendingContext/package-summary.html) | |
| --- | --- |

| Subinterfaces of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.SendingContext](http://docs.google.com/org/omg/SendingContext/package-summary.html) | |
| --- | --- |
| interface | [**RunTime**](http://docs.google.com/org/omg/SendingContext/RunTime.html)            Defines the base class that represents the Sending Context of a request. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.omg.stub.java.rmi](http://docs.google.com/org/omg/stub/java/rmi/package-summary.html) | |
| --- | --- |

| Classes in [org.omg.stub.java.rmi](http://docs.google.com/org/omg/stub/java/rmi/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**\_Remote\_Stub**](http://docs.google.com/org/omg/stub/java/rmi/_Remote_Stub.html)            This class provides the Stub for the Remote Type. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.w3c.dom](http://docs.google.com/org/w3c/dom/package-summary.html) | |
| --- | --- |

| Classes in [org.w3c.dom](http://docs.google.com/org/w3c/dom/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**DOMException**](http://docs.google.com/org/w3c/dom/DOMException.html)            DOM operations only raise exceptions in "exceptional" circumstances, i.e., when an operation is impossible to perform (either for logical reasons, because data is lost, or because the implementation has become unstable). |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.w3c.dom.events](http://docs.google.com/org/w3c/dom/events/package-summary.html) | |
| --- | --- |

| Classes in [org.w3c.dom.events](http://docs.google.com/org/w3c/dom/events/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**EventException**](http://docs.google.com/org/w3c/dom/events/EventException.html)            Event operations may throw an EventException as specified in their method descriptions. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.w3c.dom.ls](http://docs.google.com/org/w3c/dom/ls/package-summary.html) | |
| --- | --- |

| Classes in [org.w3c.dom.ls](http://docs.google.com/org/w3c/dom/ls/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**LSException**](http://docs.google.com/org/w3c/dom/ls/LSException.html)            Parser or write operations may throw an LSException if the processing is stopped. |

| Uses of [Serializable](http://docs.google.com/java/io/Serializable.html) in [org.xml.sax](http://docs.google.com/org/xml/sax/package-summary.html) | |
| --- | --- |

| Classes in [org.xml.sax](http://docs.google.com/org/xml/sax/package-summary.html) that implement [Serializable](http://docs.google.com/java/io/Serializable.html) | |
| --- | --- |
| class | [**SAXException**](http://docs.google.com/org/xml/sax/SAXException.html)            Encapsulate a general SAX error or warning. |
| class | [**SAXNotRecognizedException**](http://docs.google.com/org/xml/sax/SAXNotRecognizedException.html)            Exception class for an unrecognized identifier. |
| class | [**SAXNotSupportedException**](http://docs.google.com/org/xml/sax/SAXNotSupportedException.html)            Exception class for an unsupported operation. |
| class | [**SAXParseException**](http://docs.google.com/org/xml/sax/SAXParseException.html)            Encapsulate an XML parse error or warning. |

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | [**Class**](http://docs.google.com/java/io/Serializable.html) | **Use** | [**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   NEXT | [**FRAMES**](http://docs.google.com/index.html?java/io//class-useSerializable.html)    [**NO FRAMES**](http://docs.google.com/Serializable.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |

[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

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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