**Java versions features List**

**Java 5 features:**

**(http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html)**

[**Performance Enhancements**](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#performance)

[**Java Language Features**](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#lang)

[Generics](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#generics)

[Enhanced for Loop](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#forloop)

[Autoboxing/Unboxing](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#boxing)

[Typesafe Enums](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#enums)

[Varargs](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#varargs)

[Static Import](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#static_import)

[Metadata](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#annotations) (Annotations)

[**Virtual Machine**](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#vm)

[Class Data Sharing](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#vm_classdatashare)

[Garbage Collector Ergonomics](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#vm_gc_ergo)

[Server-Class Machine Detection](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#vm_sclass)

[Thread Priority Changes](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#vm_threads)

[Fatal Error Handling](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#vm_fatal_err)

[High-Precision Timing Support](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#vm_high_precision)

[**Base Libraries**](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#base_libs)

[Lang and Util Packages](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#java.lang)

[Networking](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#networking)

[Security](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#security)

[Internationalization](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#core_i18n)

[Improved Support for Environment Variables](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#envars)

[ProcessBuilder](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#processbuilder)

[Formatter](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#formatter)

[Scanner](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#scanner)

[Reflection](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#reflection)

[JavaBeansTM Component Architecture](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#beans)

[Collections Framework](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#collect)

[Java API for XML Processing (JAXP)](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#jaxp)

[Bit Manipulation Operations](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#bitman)

[Math](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#math)

[Instrumentation](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#instrument)

[Serialization](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#serialization)

[Concurrency Utilities](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#concurrency)

[Threads](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#threads)

[Monitoring and Management](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#mm)

[**Integration Libraries**](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#integration_libs)

[Remote Method Invocation (RMI)](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#rmi)

[Java Database Connectivity (JDBC)](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#jdbc)

[CORBA, Java IDL, and Java RMI-IIOP](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#corba)

[Java Naming and Directory InterfaceTM (JNDI)](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#jndi)

[**User Interface**](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#ui)

[Internationalization](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#ui_i18n)

[Java Sound Technology](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#js)

[Java 2DTM Technology](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#2d)

[Image I/O](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#imageio)

[AWT](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#awt)

[Swing](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#swing)

[**Deployment**](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#deploy)

[General Deployment](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#deploy_general)

[Java Web Start](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#deploy_jws)

[**Tools and Tool Architecture**](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#tools)

[Java Virtual Machine Tool Interface (JVMTI)](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#jvmti)

[Java Platform Debugger Architecture (JPDA)](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#jpda)

[Java Compiler (javac)](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#javac)

[Javadoc Tool](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#javadoc)

[Annotation Processing Tool (apt)](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#apt)

[Java TM 2 Platform, Standard Edition 5.0 Trouble-Shooting and Diagnostic Guide](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#ts)

[**OS & Hardware Platforms**](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#platform)

[Supported System Configurations](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#platform_configs)

[64-Bit AMD Opteron Processors](http://docs.oracle.com/javase/1.5.0/docs/relnotes/features.html#platform_proc64)

**Java 6 features:**

**http://www.oracle.com/technetwork/java/javase/features-141434.html**

**http://javaall.blogspot.in/2011/03/java-6-features-with-examples.html**

**Features and Enhancements**

|  |  |
| --- | --- |
|  | [JDK Documentation](http://download.oracle.com/javase/6/docs/index.html) |

Java Platform, Standard Edition 6 is a major feature release. The [following list](http://www.oracle.com/technetwork/java/javase/features-141434.html#changes) highlights many of the significant features and enhancements in Java SE 6 since the prior major release, J2SE 5.0. It is followed by a [detailed table](http://www.oracle.com/technetwork/java/javase/features-141434.html#changetable) with links to related bugs, enhancements, and JSRs.

Note, this web page relates to the Release Candidate milestone for Java SE 6. Its related [Umbrella JSR 270](http://jcp.org/en/jsr/detail?id=270) does not itself define specific features. Instead it enumerates features defined in other JSRs or through the concurrent maintenance review of the Java SE platform specification. The final release is expected to include all JSR 270 features, although it is possible for an approved feature to be dropped.

**Refer also to:**

* [**Java Platform, Standard Edition Differences between 5.0 fcs and 6 Beta**](http://download.oracle.com/docs/cd/E17802_01/j2se/javase/6/jcp/beta/apidiffs/index-diffs.html).

**Highlights of Technology Changes in Java SE 6**

Choose a technology for links to further information.

* **[Collections Framework](http://download.oracle.com/javase/6/docs/technotes/guides/collections/changes6.html)**
* [**Deployment (Java Web Start and Java Plug-in)**](http://download.oracle.com/javase/6/docs/technotes/guides/deployment/enhancements.html)
* [**Drag and Drop**](http://www.oracle.com/technetwork/articles/javase/javase6-139238.html)
* [**Instrumentation**](http://download.oracle.com/javase/6/docs/technotes/guides/instrumentation/changes6.html)
* [**Internationalization Support**](http://download.oracle.com/javase/6/docs/technotes/guides/intl/index.html)
* [**I/O Support**](http://download.oracle.com/javase/6/docs/technotes/guides/io/enhancements.html#6)
* [**JAR (Java Archive Files) -**](http://download.oracle.com/javase/6/docs/technotes/guides/jar/changes6.html)An annotated list of changes between the 5.0 and 6.0 releases to APIs, the jar command, and the jar/zip implementation.
* **Java Web Start**
* **Java DB 10.2 JDBC4 Early Access**

The $JAVA\_HOME/db subdirectory contains class libraries for Java DB, Sun Microsystems's distribution of the Apache Derby database technology.

* + For information on Java DB, see [http://www.oracle.com/technetwork/java/javadb/](http://www.oracle.com/technetwork/java/javadb/index.html).
  + For information on Derby, see: <http://db.apache.org/derby/>.
  + For documentation on this version of Java DB, see <http://www.oracle.com/technetwork/java/javadb/documentation/index.html>.
  + For a description of the capabilities of this version of Java DB, see the release notes in the $JAVA\_HOME/db subdirectory.
  + This Early Access version of Java DB is built from Apache Derby 10.2.1.7 source code (revision 453926) using JDK 6 JDBC 4 APIs to build JDBC 4 driver code.
  + Comments regarding this version of Java DB can be sent to [javadb-ea@sun.com](mailto:javadb-ea@sun.com).

**DISCLAIMER:** THIS IS EARLY ACCESS SOFTWARE AND COMES WITH NO WARRANTIES OR SUPPORT. IT IS PROVIDED "AS IS". IT IS NOT FOR PRODUCTION USE.

* [**JMX (Java Management Extensions)**](http://download.oracle.com/javase/6/docs/technotes/guides/jmx/enhancements.html)- A list of JMX API changes between the J2SE 5.0 and Java SE 6 releases.
* [**JPDA (Java Platform Debugger Architecture)**](http://download.oracle.com/javase/6/docs/technotes/guides/jpda/enhancements.html)
* [**JVM TI (Java Virtual Machine Tool Interface)**](http://download.oracle.com/javase/6/docs/technotes/guides/jvmti/changes6.html)
* [**lang and util Packages**](http://download.oracle.com/javase/6/docs/technotes/guides/lang/index.html)
* [**Monitoring and Management for the Java Platform**](http://download.oracle.com/javase/6/docs/technotes/guides/management/enhancements.html)
* [**JConsole is Officially Supported in Java SE 6**](http://download.oracle.com/javase/6/docs/technotes/guides/management/enhancements.html#jconsole)
* [**Networking Features**](http://download.oracle.com/javase/6/docs/technotes/guides/net/enhancements-6.0.html)
* [**Performance**](http://download.oracle.com/javase/6/docs/technotes/guides/performance/speed.html)
* [**Reflection**](http://download.oracle.com/javase/6/docs/technotes/guides/reflection/enhancements.html)
* [**RMI (Remote Method Invocation)**](http://download.oracle.com/javase/6/docs/technotes/guides/rmi/relnotes.html)
* [**Scripting**](http://download.oracle.com/javase/6/docs/technotes/guides/scripting/index.html)
* [**Security**](http://download.oracle.com/javase/6/docs/technotes/guides/security/enhancements.html)
* [**Serialization of Objects**](http://download.oracle.com/javase/6/docs/technotes/guides/serialization/relnotes6.html)
* [**Swing**](http://www.oracle.com/technetwork/java/javase/tech/desktop-138473.html)
* [**VM (Java Virtual Machine)**](http://download.oracle.com/javase/6/docs/technotes/guides/vm/index.html#features)

**Detailed Table of Technology Changes in Java SE 6**

Items are ordered by area/component. The first column indicates the scope of a change:

* jsr    –  A larger feature or feature set having its own Java Specification Request
* api   –  A smaller feature that adds new Java APIs (application programming interfaces)
* imp  –  An implementation enhancement that does not involve new APIs, for example, a performance improvement

|  |  |  |  |
| --- | --- | --- | --- |
| **SCOPE** | **AREA /  COMPONENT** | **SYNOPSIS** | **RFE** |
| api | client/2d | ImageIO: GIF writer | [4339415](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4339415) |
| imp | client/2d | Native Text Rendering Parity | [4726365](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4726365) |
| imp | client/2d | Improved hardware acceleration on Windows | [5104393](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5104393) |
| imp | client/2d | Single-threaded rendering for OpenGL pipelines | [6219284](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6219284) |
| api | client/awt | Pop-up splash screen at beginning of Java startup | [4247839](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4247839) |
| api | client/awt | Java applications can access desktop applications | [6255196](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6255196) |
| api | client/awt | Improved modal dialogs | [4080029](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4080029) |
| imp | client/awt | XAWT is the default Toolkit on Solaris | [5049146](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5049146) |
| api | client/awt | Windows system-tray support | [4310333](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4310333) |
| imp | client/awt | Better support for input in non-English locales | [4360364](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4360364) |
| imp | client/awt | Live resizing | [6199167](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6199167) |
| imp | client/deploy | Improved application deployment across browsers | [6329487](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6329487) |
| api | client/deploy | Allow JAR files to be shared across installed JREs | [6271065](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6271065) |
| imp | client/deploy | Improved user experience in JRE/JDK installer | [5079209](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5079209) |
| imp | client/deploy | Improved security | [6222485](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6222485) |
| imp | client/deploy | Direct execution of JAR files on Linux | [6211008](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6211008) |
| imp | client/deploy | Improved desktop integration in Java Web Start | [4625362](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4625362) |
| imp | client/deploy | Improved IFTW installer | [6198632](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6198632) |
| imp | client/deploy | Improved startup & footprint for plugin/webstart | [6329480](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6329480) |
| imp | client/deploy | Mozilla Firefox browser support | [6216340](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6216340) |
| imp | client/deploy | Default Java on Linux | [6211006](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6211006) |
| imp | client/deploy | Improved user experience in Java Plug-in and Java Web Start | [6205064](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6205064) |
| imp | client/deploy | Unified download engine | [4802551](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4802551) |
| imp | client/deploy | Support Mozilla and Firefox family browsers. | [6216340](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6216340) |
| api | client/dnd | A way to avoid hangs on retrieval of clipboard data | [4818143](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4818143) |
| imp | client/i18n | Support for important locales | [4324505](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4324505) |
| imp | client/i18n | Japanese calendar | [4609228](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4609228) |
| api | client/i18n | Resource bundle enhancements | [5102289](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5102289) |
| api | client/i18n | Normalizer API | [4221795](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4221795) |
| api | client/i18n | Pluggable locales: Pluggability for break iterators | [4052440](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4052440) |
| api | client/i18n | Pluggable locales: Pluggability for locale names, formatters, and collators | [4052440](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4052440) |
| imp | client/l10n | Chinese localization for JDK tools | [6209342](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6209342) |
| imp | client/swing | GTK Native L&F Fidelity | [6185456](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6185456) |
| imp | client/swing | Through-the-stack: Reduced footprint / startup time | [6329480](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6329480) |
| imp | client/swing | Native look & feel fidelity |  |
| imp | client/swing | Avalon Look-and-Feel | [6329475](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6329475) |
| api | client/swing | JTable sorting, filtering, and highlighting | [4747079](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4747079) |
| api | client/swing | JTabbedPane: Tabs as Components | [4499556](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4499556) |
| imp | client/swing | Windows native L&F fidelity | [5106661](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5106661) |
| api | client/swing | SwingWorker | [4681682](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4681682) |
| api | client/swing | Improve Drag & Drop features for Swing Components | [4468566](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4468566) |
| api | client/swing | Extend SpringLayout | [4726194](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4726194) |
| api | client/swing | Text Document Printing | [4791649](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4791649) |
| imp | client/swing | Improved Painting Performance (fix grey boxes) | [4967886](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4967886) |
| jsr | core/core | [JSR 223](http://jcp.org/en/jsr/detail?id=223): Scripting for the Java Platform | [6249843](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6249843) |
| api | core/debug | Multiple Simultaneous Agents | [4772582](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4772582) |
| api | core/debug | Added Heap Capabilities to JPDA | [4914266](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4914266) |
| api | core/debug | Attach-on-demand | [6173612](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6173612) |
| api | core/debug | JVMPI and JVMDI have been removed. | [4914266](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4914266) |
| api | core/jndi | Read-timeout specification for LDAP operations | [6176036](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6176036) |
| api | core/libs | Array Reallocation API | [4655503](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4655503) |
| imp | core/libs | BigDecimal optimizations for specjbb++ |  |
| api | core/libs | Floating point: Add IEEE 754 recommended functions to java.lang.{{,Strict}Math} | [4406429](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4406429) |
| api | core/libs | Standard service-provider API (java.util.Service) | [4640520](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4640520) |
| api | core/libs | Collections and Concurrency Updates | [6268386](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6268386) |
| api | core/libs | IO Enhancement: Password Prompting | [4050435](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4050435) |
| api | core/libs | IO Enhancement: File Attributes | [6216563](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6216563) |
| api | core/libs | IO Enhancement: Method for Discovering Free Disk Space | [4057701](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4057701) |
| imp | core/libs | IO Enhancement: Long pathnames on Windows | [4403166](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4403166) |
| api | core/libs | Low-level Java compiler API for IDEs | [4813736](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4813736) |
| jsr | core/libs | [JSR 202](http://jcp.org/en/jsr/detail?id=202): Java Class File Specification Update | [4639391](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4639391) |
| jsr | core/libs | [JSR 199](http://jcp.org/en/jsr/detail?id=199): Java compiler API | [4164450](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4164450) |
| imp | core/libs | Improved perceived footprint | [6280693](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6280693) |
| api | core/libs | Deques | [6192552](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6192552) |
| api | core/libs | Navigable Maps and Sets | [4155650](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4155650) |
| imp | core/libs | BitSet Updates | [4963875](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4963875), [4979017](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4979017), [4979028](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4979028),[4979031](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4979031), [5030267](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5030267), [6222207](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6222207),[6404711](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6404711) |
| imp | core/libs | Performance Improvements when compiling using network file systems | [4770745](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4770745) |
| imp | core/m&m | Improved diagnosability of OutOfMemoryError | [6173515](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6173515) |
| api | core/m&m | Generic annotations for MBean descriptor contents | [6221321](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6221321) |
| api | core/m&m | Support for java.util.concurrent locks in the lock related facility | [5086470](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5086470) |
| imp | core/m&m | jconsole is more user-friendly | [6174397](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6174397) |
| api | core/m&m | Small-scale improvements to JMX Monitor API | [6222961](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6222961) |
| api | core/m&m | descriptors added to all types of MBean | [6204469](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6204469) |
| api | core/m&m | MXBeans added to JMX | [6175517](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6175517) |
| api | core/net | Light-weight HTTP server | [6270015](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6270015) |
| api | core/net | Internationalized resource identifiers | [5085902](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5085902) |
| api | core/net | Default CookieManager implementation | [6244040](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6244040) |
| imp | core/net | SPNEGO HTTP authentication | [6260531](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6260531) |
| api | core/net | International domain names | [4737170](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4737170) |
| api | core/net | Programmatic access to network parameters | [4691932](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4691932) |
| imp | core/sec | Native platform GSS integration | [6202035](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6202035), [6345202](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6345202) |
| imp | core/sec | SPNEGO in Java GSS | [6239635](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6239635) |
| imp | core/sec | MS CAPI Keystore provider | [6318171](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6318171) |
| imp | core/sec | Better support for NSS keystore | [6273877](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6273877) |
| imp | core/sec | Improved Policy performance | [5037004](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5037004) |
| imp | core/sec | [JSR 268](http://jcp.org/en/jsr/detail?id=268): Java Smart Card I/O API | [6239117](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6239117) |
| jsr | core/sec | [JSR 105](http://jcp.org/en/jsr/detail?id=105): XML DSig | [4635230](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4635230) |
| api | core/sec | Enhance certificate APIs | [4635060](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4635060) |
| jsr | core/tools | [JSR 269](http://jcp.org/en/jsr/detail?id=269): Standard pluggabilty API for annotation processors (APT) | [6222574](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6222574) |
| imp | core/tools | javac: Support for split verification | [6227862](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6227862), [6227862](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6227862), [5110170](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5110170),[5110184](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5110184), [6217263](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6217263) |
| imp | core/tools | javac: Implement [JSR 175's](http://jcp.org/en/jsr/detail?id=175)java.lang.SuppressWarnings | [4986256](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4986256) |
| imp | core/tools | Class-path wildcards | [6268383](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6268383) |
| jsr | ee/ee | [JSR 250](http://jcp.org/en/jsr/detail?id=250): Common annotations | [6304697](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6304697) |
| imp | ee/jdbc | Extended JDBC-ODBC bridge to enable JDBC 4.0 EoD features | [6290312](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6290312) |
| jsr | ee/jdbc | [JSR 221](http://jcp.org/en/jsr/detail?id=221): JDBC 4.0 | [6290312](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6290312) |
| imp | ee/xml | JAXP 1.4   [JSR 206](http://jcp.org/en/jsr/detail?id=206): Java API for XML Processing | [6317994](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6317994) |
| jsr | ee/xml | Support for the Web Services stack   [JSR 222](http://jcp.org/en/jsr/detail?id=222): JAXB 2.0  [JSR 224](http://jcp.org/en/jsr/detail?id=224): JAX-RPC 2.0  [JSR 173](http://jcp.org/en/jsr/detail?id=173): STAX  [JSR 181](http://jcp.org/en/jsr/detail?id=181): Web Services Metadata | [6245626](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6245626) |
| api | ee/xml | JavaBeans Activation Framework (JAF) | [6254474](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6254474) |
| imp | vm/compilers | Improved performance of compiled code | [5079711](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5079711), [6206844](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6206844), [6239807](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6239807),[4850474](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4850474),  [5003419](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5003419), [5004907](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5004907), [5101346](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5101346),[6190413](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6190413), [6191063](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6191063),  [6196383](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6196383), [6196722](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6196722), [6211497](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6211497),[6232485](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6232485), [6233627](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6233627), [6245809](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6245809),  [6251002](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6251002), [6262235](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6262235), |
| imp | vm/c1 | Linear scan register allocator for C1 | [6320351](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6320351) |
| imp | vm/c2 | Improved loop optimization | [5073662](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5073662), [5074608](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5074608), [5091921](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5091921),[6260293](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6260293) |
| imp | vm/c2 | Escape analysis | [6339956](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6339956) |
| imp | vm/c2 | Lock coarsening | [6245809](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6245809) |
| imp | vm/gc | CMS: Parallelize concurrent marking |  |
| imp | vm/gc | Parallel compaction |  |
| imp | vm/runtime | Improve uncontended synchronization performance |  |
| imp | vm/runtime | Improved performance of contended synchronization operations |  |
| imp | vm/runtime | Faster format checker/class-file parser |  |
| imp | vm/runtime | Improved startup time | [6179212](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6179212) |
| imp | vm/runtime | Improved runtime performance |  |
| imp | vm/runtime | Improved JNI performance | [5086424](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=5086424) |
| imp | vm/runtime | Class circularity detection | [4699981](http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=4699981) |
| imp | vm/runtime | DTrace support in the VM |  |

**Java 7 features:**

<http://www.oracle.com/technetwork/java/javase/jdk7-relnotes-418459.html>

https://www.oreilly.com/learning/java7-features

# Java SE 7 Features and Enhancements

Java Platform, Standard Edition 7 is a major feature release. This document includes information on features and enhancements in Java SE 7 and in JDK 7, Oracle's implementation of Java SE 7. 

## Contents

* [Highlights of Technology Changes in Java SE 7](http://www.oracle.com/technetwork/java/javase/jdk7-relnotes-418459.html#changes)
* [Important RFEs Addressed in Java SE 7](http://www.oracle.com/technetwork/java/javase/jdk7-relnotes-418459.html#javase7changes)
* [Important RFEs Addressed in JDK 7](http://www.oracle.com/technetwork/java/javase/jdk7-relnotes-418459.html#jdk7changes)
* [Known Issues](http://www.oracle.com/technetwork/java/javase/jdk7-relnotes-418459.html#knownissues)

## Highlights of Technology Changes in Java SE 7

The following list contains links to the the enhancements pages in the [Java SE 7](http://docs.oracle.com/javase/7/docs/) guides documentation. Choose a technology for further information.

* [Swing](http://docs.oracle.com/javase/7/docs/technotes/guides/swing/enhancements-7.html)
* [IO and New IO](http://docs.oracle.com/javase/7/docs/technotes/guides/io/enhancements.html#7)
* [Networking](http://docs.oracle.com/javase/7/docs/technotes/guides/net/enhancements-7.0.html)
* [Security](http://docs.oracle.com/javase/7/docs/technotes/guides/security/enhancements-7.html)
* [Concurrency Utilities](http://docs.oracle.com/javase/7/docs/technotes/guides/concurrency/changes7.html)
* [Rich Internet Applications (RIA)/Deployment](http://docs.oracle.com/javase/7/docs/technotes/guides/jweb/clientJRECapabilitiesCheatSheet.html)
  + [Requesting and Customizing Applet Decoration in Dragg able Applets](http://docs.oracle.com/javase/tutorial/deployment/applet/draggableApplet.html#decoration)
  + [Embedding JNLP File in Applet Tag](http://docs.oracle.com/javase/tutorial/deployment/deploymentInDepth/embeddingJNLPFileInWebPage.html)
  + [Deploying without Codebase](http://docs.oracle.com/javase/tutorial/deployment/deploymentInDepth/deployingWithoutCodebase.html)
  + [Handling Applet Initialization Status with Event Handlers](http://docs.oracle.com/javase/tutorial/deployment/applet/appletStatus.html)
* [Java 2D](http://docs.oracle.com/javase/7/docs/technotes/guides/2d/enhancements70.html)
* [Java XML](http://docs.oracle.com/javase/7/docs/technotes/guides/xml/enhancements.html) - JAXP, JAXB, and JAX-WS
* [Internationalization](http://docs.oracle.com/javase/7/docs/technotes/guides/intl/enhancements.7.html)
* [java.lang Package](http://docs.oracle.com/javase/7/docs/technotes/guides/lang/enhancements.html#7)
  + [Multithreaded Custom Class Loaders in Java SE 7](http://docs.oracle.com/javase/7/docs/technotes/guides/lang/cl-mt.html)
* [Java Programming Language](http://docs.oracle.com/javase/7/docs/technotes/guides/language/enhancements.html#javase7)
  + [Binary Literals](http://docs.oracle.com/javase/7/docs/technotes/guides/language/binary-literals.html)
  + [Strings in switch Statements](http://docs.oracle.com/javase/7/docs/technotes/guides/language/strings-switch.html)
  + [The try-with-resources Statement](http://docs.oracle.com/javase/7/docs/technotes/guides/language/try-with-resources.html)
  + [Catching Multiple Exception Types and Rethrowing Exceptions with Improved Type Checking](http://docs.oracle.com/javase/7/docs/technotes/guides/language/catch-multiple.html)
  + [Underscores in Numeric Literals](http://docs.oracle.com/javase/7/docs/technotes/guides/language/underscores-literals.html)
  + [Type Inference for Generic Instance Creation](http://docs.oracle.com/javase/7/docs/technotes/guides/language/type-inference-generic-instance-creation.html)
  + [Improved Compiler Warnings and Errors When Using Non-Reifiable Formal Parameters with Varargs Methods](http://docs.oracle.com/javase/7/docs/technotes/guides/language/non-reifiable-varargs.html)
* [Java Virtual Machine (JVM)](http://docs.oracle.com/javase/7/docs/technotes/guides/vm/)
  + [Java Virtual Machine Support for Non-Java Languages](http://docs.oracle.com/javase/7/docs/technotes/guides/vm/multiple-language-support.html)
  + [Garbage-First Collector](http://docs.oracle.com/javase/7/docs/technotes/guides/vm/G1.html)
  + [Java HotSpot Virtual Machine Performance Enhancements](http://docs.oracle.com/javase/7/docs/technotes/guides/vm/performance-enhancements-7.html)
* [JDBC](http://docs.oracle.com/javase/7/docs/technotes/guides/jdbc/)

**Java 8 features:**

[**http://www.tutorialspoint.com/java8/**](http://www.tutorialspoint.com/java8/)

[**https://www.javacodegeeks.com/2014/05/java-8-features-tutorial.html**](https://www.javacodegeeks.com/2014/05/java-8-features-tutorial.html)

[**http://viralpatel.net/blogs/lambda-expressions-java-tutorial/**](http://viralpatel.net/blogs/lambda-expressions-java-tutorial/)

**http://www.oracle.com/technetwork/java/javase/8-whats-new-2157071.html**