

---

# Java for Mac OS X v10.5 Update 4 Release Notes

Cross Platform: Java



2009-07-08



Apple Inc.  
© 2009 Apple Inc.  
All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without prior written permission of Apple Inc., with the following exceptions: Any person is hereby authorized to store documentation on a single computer for personal use only and to print copies of documentation for personal use provided that the documentation contains Apple's copyright notice.

The Apple logo is a trademark of Apple Inc.

Use of the "keyboard" Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

No licenses, express or implied, are granted with respect to any of the technology described in this document. Apple retains all intellectual property rights associated with the technology described in this document. This document is intended to assist application developers to develop applications only for Apple-labeled computers.

Every effort has been made to ensure that the information in this document is accurate. Apple is not responsible for typographical errors.

Apple Inc.  
1 Infinite Loop  
Cupertino, CA 95014  
408-996-1010

.Mac is a registered service mark of Apple Inc.

Apple, the Apple logo, Aqua, Carbon, Cocoa, Mac, Mac OS, Quartz, and Safari are trademarks of Apple Inc., registered in the United States and other countries.

Finder is a trademark of Apple Inc.

Intel and Intel Core are registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Java and all Java-based trademarks are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

Simultaneously published in the United States and Canada.

**Even though Apple has reviewed this document, APPLE MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS DOCUMENT, ITS QUALITY, ACCURACY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS DOCUMENT IS PROVIDED "AS IS," AND YOU, THE READER, ARE ASSUMING THE ENTIRE RISK AS TO ITS QUALITY AND ACCURACY.**

**IN NO EVENT WILL APPLE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT OR INACCURACY IN THIS DOCUMENT, even if advised of the possibility of such damages.**

**THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. No Apple dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.**

**Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.**

# Contents

---

**Introduction**      **Introduction to Java for Mac OS X 10.5 Update 4 Release Notes** 5

---

Who Should Read This Document? 5

Organization of This Document 5

---

**Chapter 1**      **Known and Resolved Issues** 7

---

Java Applets 7

Java Application Support 8

Java Aqua LAF 9

Java AWT 11

Java Deploy 12

Java Engine 13

Java Graphics 13

Java HotSpot 14

Java InputMethods 15

Java Install 15

Java JavaLib 16

Java JDK 17

Java Networking 18

Java ScreenMenuBar 18

Java Security 19

Java Text 19

Java Tools 19

Java VM Tools 20

Java Web Start 20

---

**Document Revision History** 23

---



# Introduction to Java for Mac OS X 10.5 Update 4 Release Notes

---

These release notes provide information concerning known and resolved issues that may affect developers creating Java applications for Mac OS X with Java for Mac OS X 10.5 Update 4.

## Java for Mac OS X v10.5 Update 4

Java for Mac OS X 10.5 Update 4 delivers improved reliability, security, and compatibility for Java SE 6, J2SE 5.0 and J2SE 1.4.2 on Mac OS X 10.5.7 and later. This release updates Java SE 6 to version 1.6.0\_13, J2SE 5.0 to version 1.5.0\_19, and J2SE 1.4.2 to 1.4.2\_21. Java SE 6 support is available on 64-bit, Intel-based Macs only.

## Who Should Read This Document?

Any developer who wants to develop Java applications on Mac OS X v10.5 should read this document as various issues and fixes found in this release may affect your application.

## Organization of This Document

This document contains the following chapter:

- [“Known and Resolved Issues”](#) (page 7) highlights a selection of high-visibility bugs that have been addressed in this release. This chapter is broken down by the category where the bug occurs and provides a brief description of what the issue was and how it was resolved.

This document also contains a revision history.

## INTRODUCTION

Introduction to Java for Mac OS X 10.5 Update 4 Release Notes

# Known and Resolved Issues

---

This chapter lists high visibility bugs that have been addressed in this release. It is not a complete listing of all of the bugs addressed. If you still have issues with any of these bugs, please file a new bug at <http://bugreport.apple.com/> under the Java (new bugs) component, version X. Refer to the bug number indicated below in your new bug if you believe it is the same issue.

## Java Applets

---

### Radar #3819521

Java should have a way to run applets as their own process.

**Description:**

Java applets should be able to be run as their own processes, independent of the browser.

**Resolution:**

Java for Mac OS X 10.5 Update 4 contains a prototype of the NPAPI-based Java Plugin2, which runs separately from the hosting browser process. It is present in `/System/Library/Frameworks/JavaVM.framework/Resources/JavaPlugin2.plugin`, and is a developer-only feature at this time.

---

### Radar #6391767

JavaScript onload handler deadlocks with Java Applet security dialog.

**Description:**

On web pages containing a Java applet with signed content, any onload JavaScript handler that touched the Java LiveConnect support would logically deadlock with the modal security dialog.

**Resolution:**

LiveConnect calls sent to the applet while the security UI is present are dropped. A null instance of the applet is returned, because the applet is not actually alive yet.

---

### Radar #6434637

Firefox does not use J2SE 1.4 when it is selected in Java Preferences.

**Description:**

The Firefox JavaEmbeddingPlugin read an internal property to determine which Java plug-in to load, and the property was removed.

**Resolution:**

This property has been replaced for older versions of the JEP, but will be removed in the future. Future versions of the JEP use the `/usr/libexec/java_home` command to determine which plug-in to load.

## Java Application Support

**Radar #5622562**

---

Double-clickable Java applications have no way to express architecture requirements.

**Description:**

Java applications have no way to express to the `JavaApplicationLauncher.framework` their architecture requirements or preferred architecture. Checking the "Run in 32-bit mode" checkbox in the application's Finder Get Info window does nothing.

**Resolution:**

The `JavaApplicationLauncher.framework` no longer changes the architecture of a double-clickable application based on the JVM order in Java Preferences. Now, the architectures present in the `JavaApplicationStub` determine the architectures application can launch in. The order of the architectures in the `LSArchitecturePriority` key in the application's `Info.plist` now determine the preferred architecture to launch the application in. Additionally, the "Run in 32-bit mode" checkbox in the Finder Get Info window now functions as expected for Java applications. The `JavaApplicationLauncher.framework` now selects the first compatible JVM that can run in the architecture that application was launched in by Launch Services.

**Radar #6474860**

---

No way to choose JVM version from command line, no way to determine `$JAVA_HOME`.

**Description:**

Mac OS X has no way to provide a valid `$JAVA_HOME` path that respects the order of JVMs in Java Preferences and handles version/architecture constraints.

**Resolution:**

`/usr/libexec/java_home` now prints a valid `$JAVA_HOME` path and takes several arguments to constrain its selection. See the `java_home` man page for more information.

**Radar #6633526**

---

`JavaNativeFoundation's JNFObtainEnv()` fails to set up a context classloader.

**Description:**

When `JNFObtainEnv()` attaches a thread to the JVM, it does not set up a context classloader for that thread.

**Resolution:**

A flag has been introduced that sets up the system classloader as the context classloader for the attaching thread.

## Java Aqua LAF

### Radar #5519010

---

Option-click on JTree handle does not expand all nodes.

**Description:**

Option-clicking on the node handle of a JTree does not expand all sub-nodes.

**Resolution:**

This issue has been addressed.

### Radar #5699370

---

JDialogs don't pick up Web Start application icons.

**Description:**

Information, warning, and error JDialogs that show the application's icon were showing the generic Java icon for Web Start apps.

**Resolution:**

The dock icon is now appropriately picked up for all JDialogs.

### Radar #5849613

---

JProgressBars consume CPU even if not visible.

**Description:**

Aqua JProgressBars did not correctly unregister and re-register internal animation timers when their parent component changed visibility.

**Resolution:**

This issue has been resolved.

### Radar #6097244

---

JComboBox size application throws unexpected exceptions.

**Description:**

The internal component size applicator functions of the Aqua JComboBox UI delegate inadvertently triggered exceptions as part of its construction.

**Resolution:**

This issue has been resolved.

### **Radar #6109062**

---

JButton border reset by Aqua after border explicitly set to null.

**Description:**

The Aqua Look and Feel reset borders on JButtons if the border was explicitly set to null.

**Resolution:**

This issue has been addressed.

### **Radar #6437501**

---

Aqua JPasswordField does not show a caps-lock indicator.

**Description:**

The Aqua JPasswordField provides no feedback when the caps-lock key is on.

**Resolution:**

This issue has been addressed.

### **Radar #6444328**

---

`JTextField.setText()` not thread-safe when using `JTextField.variant=search`.

**Description:**

Calling `JTextField.setText()` from multiple threads after applying `JTextField.putClientProperty("JTextField.variant", "search")` would result in other JComponents being modified off of the event dispatch thread.

**Resolution:**

This issue has been resolved.

### **Radar #6512564**

---

Command-clicking on JLists and JTables resets selection.

**Description:**

Command-clicking on JLists and JTables would reset the selection instead of extending it when any slight motion occurred during the click.

**Resolution:**

This issue has been resolved.

### **Radar #6585910**

---

JButtons had improper alignments for some extended types.

**Description:**

Java for Mac OS X 10.5 Update 2 introduced some border and text baseline misalignment regressions to some of the JButton extended types.

**Resolution:**

This issue has been resolved.

**Radar #6975000**

---

Java SE 6 removed legacy Aqua classes.

**Description:**

Java SE 6 removed all legacy Aqua classes and replaced their implementations with stub classes. Applications depending on these classes will no longer function correctly. Direct use of Aqua internal classes will not be supported in future releases.

## Java AWT

**Radar #4090456**

---

Windows disable when Help search field gains focus.

**Description:**

Java windows disable when the search field in the Help menu gains focus.

**Resolution:**

This issue has been addressed.

**Radar #5509728**

---

`Toolkit.getDesktopProperty("awt.multiClickInterval")` returns null.

**Description:**

The `Toolkit.getDefaultToolkit().getDesktopProperty("awt.multiClickInterval")` value was not implemented on Mac OS X.

**Resolution:**

This value now returns the double-click interval specified in the Keyboard & Mouse preference pane.

**Radar #5648142**

---

Dropping or pasting image data into a Java application fails.

**Description:**

In certain circumstances, pasting image data into a Java application from the clipboard, or from a drag, could fail due to a native exception.

**Resolution:**

Pasting and dragging image data into Java applications now works correctly.

**Radar #6276671**

---

`Toolkit.getScreenResolution()` reports unexpected values, causes unusual scaling.

**Description:**

`Toolkit.getScreenResolution()` began reporting the physical screen resolution, which caused unusual scaling in some apps. `Toolkit.getScreenResolution()` now reports 72 dpi, or a multiplied value if the User Interface Scaling setting in Quartz Debug specifies a higher UI scale factor. The resolution of physical displays can still be obtained by obtaining the `GraphicsConfiguration` of the screen and evaluating the transform returned from `GraphicsConfiguration.getNormalizingTransform()`.

**Resolution:**

This issue has been resolved.

**Radar #6434346**

---

Starting the AWT from native launchers fails to properly register application.

**Description:**

Instantiating the AWT from some Java native launchers (like some based off of the `simpleJavaLauncher` ADC example) which don't create a Cocoa or Carbon event loop failed after installing Java for Mac OS X 10.5 Update 2. This would cause windows to show up, but never become foreground.

**Resolution:**

The AWT now recognizes when it is instantiated by a custom launcher and performs the proper application registration.

**Radar #6472766**

---

Menus using brackets as shortcuts show as curly braces.

**Description:**

Menu items using brackets as menu shortcuts would show as curly braces instead.

**Resolution:**

This issue has been resolved.

## Java Deploy

**Radar #6681082**

---

Java signed content dialog asks users to trust certificates.

**Description:**

The security dialogs that ask to run signed Java content only ask the user to make a trust decision based on the certificate used to sign the content.

**Resolution:**

The security dialogs have been redesigned to ask questions based on originating host, using the certificates as corroborating information.

**Radar #6962689**

---

Web Start shortcut apps fail to launch on PPC and 32-bit only Intel Macs.

**Description:**

Double-clickable Java Web Start app shortcut bundles fail to launch on 32-bit only capable Macs.

**Workaround:**

Launch Web Start applications from their original JNLP files.

## Java Engine

**Radar #6224104**

---

JVM eventually crashes after playing periodic sounds.

**Description:**

The Java VM will eventually crash when playing non-continuous sounds.

**Resolution:**

This issue has been resolved.

## Java Graphics

**Radar #5607632**

---

Sun2D Image scaling is extremely slow with images obtained from ImageIO.

**Description:**

The native image type returned from ImageIO was not a type optimized for use by the Sun 2D renderer, and could result in extremely long pause times when using BILINEAR or BICUBIC scaling. Java SE 6 is not affected.

**Resolution:**

This issue is addressed in J2SE 5.0 by pre-converting the native image type returned from ImageIO when using the Sun2D renderer.

**Radar #5719903**

---

Poor graphics fidelity, performance in J2SE 5.0.

**Description:**

The Sun2D renderer in J2SE 5.0 has many unaddressable performance and fidelity issues, including poor aliased circle drawing, slow anti-aliased primitives, very slow image scaling, and occasional crashes.

**Workaround:**

The Sun2D software renderer is still available via `-Dapple.awt.graphics.UseQuartz=false`.

**Resolution:**

The default graphics renderer for J2SE 5.0 has been switched back to Quartz. In Java SE 6, the quality and the performance of the Sun2D renderer is significantly better, so the default renderer for Java SE 6 remains Sun2D.

**Radar #6674516**

---

GraphicsEnvironment doesn't update when screens are added or removed.

**Description:**

Java applications could encounter an `ArrayIndexOutOfBoundsException` when displays are added to or removed from the computer, and Java windows were moving between those screens.

**Resolution:**

This issue has been resolved.

## Java HotSpot

**Radar #6239308**

---

Insufficient information in `UnsatisfiedLinkErrors`.

**Description:**

Applications with JNI libraries encounter a number of errors when transitioning to 64-bit, with most problems encountered by dyld wrapped up in an `UnsatisfiedLinkError` with little information.

**Resolution:**

The full text of the error from dyld is included in the description text of the `UnsatisfiedLinkError`, including the full paths to the binaries affected.

**Radar #6425713**

---

Java SE 6 does not enable GC ergonomics.

**Description:**

HotSpot in Java SE 6 did not enable the self-adjusting GC ergonomics as designed by Sun.

**Resolution:**

GC ergonomics has been enabled by default for Java SE 6, and will automatically use the Concurrent Mark Sweep collector on Macs with at least two cores and 2GB of RAM.

**Radar #6431183**

---

jstack would fail to print stack trace.

**Description:**

When jstack was run against a target process, sometimes it would fail to print the stacktraces of the target process and would instead throw a RuntimeException.

**Resolution:**

This issue has been resolved.

**Radar #6565385**

---

Java SE 6 HotSpot function compiler threshold reduced from 10000 to 1500.

**Description:**

The HotSpot function compiler threshold for Java SE 6 has been reduced to offer faster startup time for graphical applications. The previous value of 10000 is appropriate for server applications, however performance for graphical apps was shown to be improved by simply lowering this threshold to the default client value of 1500.

**Workaround:**

Pass `-server` to launch using the previous value.

## Java InputMethods

**Radar #4657992**

---

Java Input Method Hotkey has been merged into Java Preferences.

**Description:**

The Java Input Method Hotkey selector application has been rolled into Java Preferences at the bottom of the "Advanced" tab.

## Java Install

**Radar #6257971**

---

Installing Update 2 creates a `/Developer` directory with `Jar Bundler.app` and `Applet Launcher.app` symlinks.

**Description:**

The installer for "Java for Mac OS X 10.5 Update 2" added two symlinks for Jar Bundler and Applet Launcher inside of `/Developer/Applications/Utilities/`. If `/Developer` did not exist, Update 2 created it.

**Resolution:**

The symlinks for Jar Bundler and Applet Launcher are removed from `/Developer`, and deletes `/Developer` if it is empty.

---

**Radar #6951072**

Installing Update 4 removes Jar Bundler.app and Applet Launcher.app symlinks from `/Developer`.

**Description:**

The installer for "Java for Mac OS X 10.5 Update 4" removes the symlinks for Jar Bundler and Applet Launcher inside of `/Developer/Applications/Utilities/`.

**Workaround:**

Jar Bundler and Applet Launcher are still available in `/usr/share/java/Tools`.

---

**Radar #6997161**

Installing Update 4 concurrently with a rebooting update can lose JNLP file associations.

**Description:**

Installing "Java for Mac OS X 10.5 Update 4" simultaneously with a software update that requires reboot can cause JNLP files to lose their association to the Java Web Start.app launcher.

**Workaround:**

Open the `/System/Library/CoreServices` window in the Finder, and then close it.

## Java JavaLib

---

**Radar #6153126**

Missing sources in `src.jar`.

**Description:**

The source distribution for Mac OS X was missing sources for the `com.sun.javadoc`, `com.sun.jmx`, `com.sun.mirror`, `com.sun.org.apache`, `javax.management`, and `javax.sound` classes.

**Resolution:**

This issue has been resolved.

---

**Radar #6177885**

Java applications started with `-XstartOnFirstThread` have no context classload on the main thread.

**Description:**

Java applications started with `-XstartOnFirstThread` do not have a thread context classloader defined for the main thread.

**Resolution:**

This issue has been resolved.

**Radar #6978682**

---

Java uses a new `java.io.tmpdir`.

**Description:**

Java uses a new, more secure temporary directory in Mac OS X that is not shared between users. This directory has the form of `/var/folders/1G/1G5zx3NCG58Ur12t6oJtaE++-+2/-Tmp-/` and is accessible from the `$TMPDIR` environment variable. Some applications assume the temporary directory is always `/tmp` or do not expect dashes or plus signs in the path name.

**Workaround:**

Pass a different "java.io.tmpdir" system property to Java like `"-Djava.io.tmpdir=/tmp"`, or use the value of the `$TMPDIR` environment variable.

## Java JDK

**Radar #5940722**

---

Java applet settings have been removed from Java Preferences.

**Description:**

It is not possible to alter runtime parameters passed to Java applets.

**Resolution:**

Java applet settings have been re-introduced to Java Preferences, and are now scoped per-JVM, per-architecture.

**Radar #7005322**

---

Old `JavaPluginCocoa.bundle` cause Safari, Mail, and others to crash.

**Description:**

Older copies of the `JavaPluginCocoa.bundle` in a user home directory under `~/Library/Internet Plug-Ins/` can cause WebKit-based applications to crash on launch. There should only be one symlink of the `JavaPluginCocoa.bundle` in `/Library/Internet Plug-Ins/`, which chooses the user's preferred Java version from `Java Preferences.app`.

**Workaround:**

Remove old copies of the `JavaCocoaPlugin.bundle` from the `~/Library/Internet Plug-Ins` folder in any user home directories.

## Java Networking

### Radar #6118358

---

No way to specify proxy settings unique to Java.

**Description:**

There is no way for a user to specify proxy settings that are unique to Java.

**Resolution:**

UI has been added to the "Network" tab of Java Preferences.app.

## Java ScreenMenuBar

### Radar #5981387

---

JCheckBoxMenuItems ignores CTRL\_MASK in menu key shortcut.

**Description:**

JCheckBoxMenuItems would ignore any CTRL\_MASK assigned to them.

**Resolution:**

This issue has been resolved.

### Radar #6034650

---

Using many menu items significantly slows down opening menus.

**Description:**

A previous fix to the Aqua screen menu bar caused the entire menu to be reconstructed each time the menu bar was opened.

**Resolution:**

Previous unmodified JMenus are now cached appropriately.

### Radar #6440946

---

Menu item with VK\_SPACE shortcut displayed as TAB.

**Description:**

A JMenuItem with a VK\_SPACE shortcut would display its shortcut glyph as a tab character.

**Resolution:**

This issue has been resolved.

## Java Security

### Radar #5718921

---

Valid security certificates show "cannot be verified" warning.

**Description:**

In some cases, valid certificate chains would show a "certificate cannot be verified" warning, even though nothing was wrong with the certificate.

**Resolution:**

This issue has been resolved, and the security certificate UI has been redesigned.

### Radar #6451514

---

Some signed content failed to validate with an `IndexOutOfBoundsException`.

**Description:**

Some signed applets or Web Start applications failed to validate due to an internal bookkeeping error in the `MacOSXTrustDecider`.

**Resolution:**

This issue has been resolved.

## Java Text

### Radar #6584192

---

Java SE 6 does not support the `swing.aatext` system property.

**Description:**

Support for the `swing.aatext` system property was removed in Java SE 6.

**Resolution:**

Java SE 6 on Mac OS X now supports the `swing.aatext` system property for backwards compatibility. Using `awt.font.desktophints` is encouraged.

## Java Tools

### Radar #5820782

---

Ant missing some optional tasks.

**Description:**

The Ant distribution in Java was missing several tasks, including ANTLR.

**Resolution:**

This issue has been resolved.

---

**Radar #5903940**

Derby is not available in Java SE 6, as provided by Apple.

**Description:**

The Derby database libraries, which are shipped with the the Java 6 JDK on other platforms, is not shipped with Mac OS X.

**Resolution:**

Derby is now available in /usr/share/derby.

---

**Radar #6606827**

jhat fails to run.

**Description:**

Running jhat with a heap dump file would fail with a RuntimeException.

**Resolution:**

This issue has been resolved.

## Java VM Tools

---

**Radar #6225464**

Java VisualVM not present in Java SE 6.

**Description:**

Java VisualVM was not present in Java SE 6.

**Resolution:**

Java VisualVM is now distributed with Java SE 6 on Mac OS X.

## Java Web Start

---

**Radar #6195034**

The JVM architecture preference is not honored if the JNLP encoding is "utf-8".

**Description:**

A Web Start application will launch in 32-bit, even if Java Preferences prefers a 64-bit JVM if the JNLP file has a "utf-8" encoding.

**Workaround:**

Specifying the "arch=x86\_64" option in the resources section of your JNLP file will force Web Start to run in 64 bit mode. Alternately, the JNLP encoding can be set to "macintosh".

---

**Radar #6209806**

The "Install Shortcuts" and "Go to Homepage" functions in the Java Preferences cache viewer don't work.

**Description:**

The "Install Shortcuts" and "Go to Homepage" buttons on the cache viewer window of Java Preferences do not do anything.

**Resolution:**

This issue has been addressed.

---

**Radar #6246256**

Applets and Web Start applications fail to obtain resources with URL obtained from `Class.getResource()`.

**Description:**

A problem in the 1.5 Java deployment classes prevented resources obtained through a derived URL from a `Class.getResource()` URL failed to obtain the requested resource.

**Resolution:**

Java SE 6 deployment classes are used for all machines as of Java for Mac OS X 10.5 Update 4. This issue has been resolved.

---

**Radar #6432705**

Some Webstart apps that had a desktop shortcut did not have the correct Dock icon and menu bar.

**Description:**

Some Webstart applications that create a desktop shortcut launched with an incorrect Dock icon and name.

**Resolution:**

This issue has been resolved.

---

**Radar #6434184**

Setting the property `apple.laf.useScreenMenuBar` to true did not result in using `ScreenMenuBar`.

**Description:**

Some Webstart applications that requested the `ScreenMenuBar` by setting the `apple.laf.useScreenMenuBar` property in the jnlp or programatically failed to use the `ScreenMenuBar`.

**Resolution:**

The ScreenMenuBar property `apple.laf.useScreenMenuBar` works correctly now.

# Document Revision History

---

This table describes the changes to *Java for Mac OS X v10.5 Update 4 Release Notes*.

Date	Notes
2009-07-08	First version of Java for Mac OS X v10.5 Update 4 Release Notes.

## REVISION HISTORY

### Document Revision History