

README

Java™ Platform, Standard Edition Runtime Environment Version 8

The Java™ Platform, Standard Edition Runtime Environment (JRE) is intended for software developers and vendors to redistribute with their applications.

The Java SE Runtime Environment contains the Java virtual machine, runtime class libraries, and Java application launcher that are necessary to run programs written in the Java programming language. It is not a development environment and does not contain development tools such as compilers or debuggers. For development tools, see the Java SE Development Kit (JDK™).

Deploying Applications with the Java SE Runtime Environment

When you deploy an application written in the Java programming language, your software bundle will probably consist of the following parts:

Your own class, resource, and data files.

A runtime environment.

An installation procedure or program.

You already have the first part, of course. The remainder of this document covers the other two parts. Also see the Developers website:

<http://www.oracle.com/technetwork/java>

Runtime Environment

To run your application, a user needs the Java SE Runtime Environment, which is freely available from Oracle. Or, you can redistribute the Java SE Runtime Environment for free with your application, according to the terms of the Oracle Binary Code License Agreement for the Java SE Platform Products.

The final step in the deployment process occurs when the software is installed on an individual user's system. Installation consists of copying software onto the user's system, then configuring the user's system to support that software. You should ensure that your installation procedure does not overwrite existing JRE installations, as they may be required by other applications.

Redistribution of the Java SE Runtime Environment (JRE)

NOTE - The license for this software does not allow the redistribution of beta and other pre-release versions.

You may reproduce and distribute the Software (and also portions of Software identified below as Redistributable), provided that you comply with the terms and conditions of the Oracle Binary Code License Agreement for the Java SE Platform Products.

The term "vendors" used here refers to licensees, developers, and independent software vendors (ISVs) who license and distribute the Java SE Runtime Environment with their programs.

Vendors must follow the terms of the Java SE Runtime Environment Binary Code License agreement.

Required vs. Optional Files

The files that make up the Java SE Runtime Environment are divided into two categories: required and optional. Optional files may be excluded from redistributions of the Java SE Runtime Environment at the vendor's discretion.

The following section contains a list of the files and directories that may optionally be omitted from redistributions with the Java SE Runtime Environment. All files not in these lists of optional files must be included in redistributions of the runtime environment.

Optional Files and Directories

The following files may be optionally excluded from redistributions. These files are located in the `jre1.8.0_<version>` directory, where `<version>` is the update version number. Solaris and Linux filenames and separators are shown. Windows executables have the ".exe" suffix. Corresponding files with `_g` in the name can also be excluded.

The corresponding man pages should be excluded for any excluded executables (with paths listed below beginning with `bin/`, for the Solaris™ Operating System and Linux).

```
lib/ext/ [Everything under this directory can be excluded]
sunjce_provider.jar,sunec.jar, sunpkcs11.jar and sunmscapi.jar -

JCA/JCE providers for Java Cryptography APIs. Some providers are
not available on all OS or Architectures. The runtime environment
must contain at least one implementation of each of the required
Security algorithms as described in:

http://docs.oracle.com/javase/8/docs/technotes/guides/
security/StandardNames.html

localedata.jar - contains many of the resources needed for
non US English locales
dnsns.jar - for the InetAddress wrapper of
JNDI DNS provider

bin/rmid - [.exe, and .dll on Microsoft Windows] Java RMI Activation
System Daemon
bin/rmiregistry - Java Remote Object Registry
bin/tnameserv - Java IDL Name Server
bin/keytool - Key and Certificate Management Tool
bin/kinit - [Microsoft Windows] Used to obtain and cache Kerberos
ticket-granting tickets
bin/klist - [Microsoft Windows] Kerberos display entries in
credentials cache and keytab
bin/ktab - [Microsoft Windows] Kerberos key table manager
bin/policytool - Policy File Creation and Management Tool
bin/orbd - Object Request Broker Daemon
bin/servertool - Java IDL Server Tool

bin/javaws and
lib/javaws.jar - Java Web Start
```

```
lib/jfr and
lib/jfr.jar      - Flight Recorder Files

lib/oblique-fonts/*
lib/desktop/*
plugin/*
```

When redistributing the JRE on Microsoft Windows as a private application runtime (not accessible by other applications) with a custom launcher, the following files are also optional. These are libraries and executables that are used for Java support in Internet Explorer and Mozilla family browsers; these files are not needed in a private JRE redistribution.

```
binWjava.exe
binWjavaw.exe
binWjavaws.exe
binWjavacpl.exe
binWjucheck.exe
binWdtpugin
binWjabswitch.exe
binWjava_crw_demo.dll
binWJavaAccessBridge-32.dll
binWJavaAccessBridge.dll
binWJAWTAccessBridge-32.dll
binWJAWTAccessBridge.dll
binWWindowsAccessBridge-32.dll
binWWindowsAccessBridge.dll
binWwsdetect.dll
binWdtpuginW*
binWplugin2W*
binWdeploy.dll
binWjfr.dll
binWjavacpl.cpl
libWdeploy.jar
libWplugin.jar
libWdeployW*
```

All JavaFX-related files may be excluded from redistribution.

All JavaFX related files:

```
THIRDPARTYLICENSEREADME-JAVAFX.txt
[As long as you don't include any other JavaFX related files]
                                     - JavaFX third-party license information
lib/ant-javafx.jar                  - JavaFX packager ant tasks
lib/javafx.properties              - JavaFX properties file
```

```
lib/jfxswt.jar
```

JavaFX native libraries [Microsoft Windows]:

```
binWdecora-sse.dll
binWfxplugins.dll
binWglass.dll
binWglib-lite.dll
binWgstreamer-lite.dll
binWjavafx-font.dll
binWjavafx_font_t2k.dll
binWjavafx-io.dll
binWjfxmedia.dll
binWjfxwebkit.dll
binWprism_common.dll
binWprism-d3d.dll
binWprism_es2.dll
binWprism_sw.dll
```

JavaFX native libraries [Mac OS X]:

```
lib/fxplugins.dylib
lib/libdecora_sse.so
lib/libdecora-sse.dylib
lib/libfxplugins.so
lib/libglass.dylib
lib/libglib-lite.dylib
lib/libgstreamer-lite.dylib
lib/libjavafx_font_t2k.dylib
lib/libjavafx-font.dylib
lib/libjavafx-io.dylib
lib/libjfxmedia.dylib
lib/libjfxwebkit.dylib
lib/libprism_common.dylib
lib/libprism_sw.dylib
lib/libprism-es2.dylib
```

JavaFX native libraries [Linux-i586]:

```
lib/i386/libdecora_sse.so
lib/i386/libfxplugins.so
lib/i386/libglass.so
lib/i386/libgstreamer-lite.so
lib/i386/libjavafx_font_freetype.so
lib/i386/libjavafx_font_pango.so
lib/i386/libjavafx_font_t2k.so
lib/i386/libjavafx-font.so
lib/i386/libjavafx-io.so
lib/i386/libjfxmedia.so
lib/i386/libjfxwebkit.so
lib/i386/libprism_common.so
lib/i386/libprism_es2.so
lib/i386/libprism_sw.so
```

JavaFX native libraries [Linux-x64]:

```
lib/amd64/libdecora_sse.so
lib/amd64/libprism_common.so
lib/amd64/libprism_es2.so
lib/amd64/libprism_sw.so
lib/amd64/libfxplugins.so
lib/amd64/libglass.so
lib/amd64/libgstreamer-lite.so
lib/amd64/libjavafx_font_freetype.so
```

```
lib/amd64/libjavafx_font_pango.so
lib/amd64/libjavafx_font_t2k.so
lib/amd64/libjavafx-font.so
lib/amd64/libjavafx-iao.so
lib/amd64/libjfxmedia.so
lib/amd64/libjfxwebkit.so
lib/amd64/libprism-es2.so
```

Redistributable JDK™ Files

The limited set of files from the Java SE Development Kit (JDK) listed below may be included in vendor redistributions of the Java SE Runtime Environment. All paths are relative to the top-level directory of the JDK. The corresponding man pages should be included for any included executables (with paths listed below beginning with bin/, for the Solaris™ Operating System and Linux).

```
lib/cmm/PYCC.pf      Color profile: This file is required only if one
                    wishes to convert between the PYCC color space
                    and another color space.
```

```
All .ttf font files in the lib/fonts directory
                    Note that the LucidaSansRegular.ttf font is already
                    contained in the Java SE Runtime Environment, so
                    there is no need to bring that file over from the JDK.
```

The javac bytecode compiler, consisting of the following files:

```
bin/javac           [Solaris™ Operating System, Linux and OS X]
bin/sparcv9/javac   [Solaris Operating System (SPARC(R) Platform Edition)]
bin/amd64/javac     [Solaris Operating System (AMD)]
bin\javac.exe       [Microsoft Windows]
lib\tools.jar       [All platforms]
```

```
lib/jconsole.jar    The Jconsole application.
bin\server\         On Microsoft Windows platforms, the JDK includes both
                    the Java HotSpot™ Server VM and Java HotSpot
                    Client VM. However, the Java SE Runtime Environment
                    for Microsoft Windows platforms includes only the
                    Java HotSpot Client VM. Those wishing to use the
                    Java HotSpot Server VM with the Java SE Runtime
                    Environment may copy the JDK's jre\bin\server folder
                    to a bin\server directory in the Java SE Runtime
                    Environment. Software vendors may redistribute the
                    Java HotSpot Server VM with their redistributions of
                    the Java SE Runtime Environment.
```

Unlimited Strength Java Cryptography Extension

Due to import control restrictions for some countries, the Java Cryptography Extension (JCE) policy files shipped with the Java SE Development Kit and the Java SE Runtime Environment allow strong but limited cryptography to be used. These files are located at:

```
<java-home>/lib/security/local_policy.jar
<java-home>/lib/security/US_export_policy.jar
```

where <java-home> is the jre directory of the JDK or the top-level directory of the Java SE Runtime Environment.

An unlimited strength version of these files indicating no restrictions on cryptographic strengths is available on the JDK web site for those living in eligible countries. Those living in eligible countries may download the unlimited strength version and replace the strong cryptography jar files with the unlimited strength files.

The cacerts Certificates File

Root CA certificates may be added to or removed from the Java SE certificate file located at:

```
<java-home>/lib/security/cacerts
```

For more information, see "The cacerts Certificates File" section in the keytool documentation at:

<http://docs.oracle.com/javase/8/docs/technotes/guides/security>

Endorsed Standards Override Mechanism

From time to time it is necessary to update the Java platform in order to incorporate newer versions of standards that are created outside of the Java Community ProcessSM (JCPSM <http://www.jcp.org/>) (Endorsed Standards), or in order to update the version of a technology included in the platform to correspond to a later standalone version of that technology (Standalone Technologies).

The Endorsed Standards Override Mechanism provides a means whereby later versions of classes and interfaces that implement Endorsed Standards or Standalone Technologies may be incorporated into the Java Platform.

For more information on the Endorsed Standards Override Mechanism, including the list of platform packages that it may be used to override, see:

<http://docs.oracle.com/javase/8/docs/technotes/guides/standards>