README
Java™ Platform, Standard Edition 7 Development Kit
JDK™ 7

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Introduction

JDK是一个构建应用的开发环境

Thank you for downloading this release of the Java Platform, Standard Edition Development Kit (JDK). The JDK is a development environment for building applications, applets, and components using the Java programming language.

The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.

JDK包含的工具对“开发和测试Java应用程序”非常有用

System Requirements & Installation

System requirements, installation instructions and troubleshooting tips are located on the Java Platform web site at:

Installation Instructions 安装说明

故障排除技巧

JDK Documentation

在线文档包含API规范、功能描述、开发人员指南、JDK工具引用页、示例代码

The on-line Java Platform, Standard Edition (Java SE) Documentation contains API specifications, feature descriptions, developer guides, reference pages for JDK tools and utilities, demos, and links to related information. The Java SE documentation is also available in a download bundle which you can install on your machine. To obtain the documentation bundle, see the download page. For API documentation, refer to the The Java Platform, Standard Edition API Specification. This documentation provides brief descriptions of the API with an emphasis on specifications, not on code examples.

Release Notes

查看“发行说明”

See the Release Notes on the Java Platform web site for additional information pertaining to this release. Please check the on-line release notes occasionally for the latest information as they will be updated as needed.

Compatibility

查看“与以前版本的兼容性”

See Compatibility with Previous Releases on the Java Platform web site for the list of known compatibility issues. Every effort has been made to support programs written for previous versions of the Java platform. Although some incompatible changes were necessary, most software should migrate to the current version with no reprogramming. Any failure to do so is considered a bug, except for a small number of cases where compatibility was deliberately broken, as described on our compatibility web page. Some compatibility-breaking changes were required to close potential security holes or to fix implementation or design bugs.

Bug Reports and Feedback

The JDK Bug Database web site lets you search for and examine existing bug reports, submit your own bug reports, and tell us which bug fixes matter most to you. To directly submit a bug or request a feature, fill out this form:

http://bugreport.sun.com/bugreport/

You can send feedback to the Java SE documentation team.

Note - Please do not seek technical support through the Bug Database or our development teams. For support options, see Support and Services on Oracle Support web site.

Contents of the JDK

This section contains a general summary of the files and directories in the JDK. For details on the files and directories, see the File Structure section of the Java SE documentation for your platform.

Development Tools

(In the `bin/` subdirectory) Tools and utilities that will help you develop, execute, debug, and document programs written in the Java programming language. For further information, see the tools documentation.

Runtime Environment

(In the `jre/` subdirectory) An implementation of the Java Runtime Environment (JRE) for use by the JDK. The JRE includes a Java Virtual Machine (JVM™), class libraries, and other files that support the execution of programs written in the Java programming language.

Additional Libraries

(In the `lib/` subdirectory) Additional class libraries and support files required by the development tools.

Java DB

(In the `db/` subdirectory) Java DB, Oracle's distribution of the Apache Derby relational database. For further information, see the documentation.

C header Files

(In the `include/` subdirectory) Header files that support native-code programming using the Java Native Interface, the JVM Tool Interface, and other functionality of the Java platform.

Source Code

(In `src.zip`) Java programming language source files for all classes that make up the Java core API (that is, sources files for the java.*, javax.* and some org.* packages, but not for com.sun.* packages). This source code is provided for informational purposes only, to help developers learn and use the Java programming language. These files do not include platform-specific implementation code and cannot be used to rebuild the class libraries. To extract these file, use any common zip utility. Or, you may use the Jar utility in the JDK's `bin/` directory:

```
jar xvf src.zip
```

JavaFx Tools

Various tools specific to JavaFX are included.

JavaFX packaging tool
`bin/javafxpackager.exe`

Documentation for JavaFX packager
`man/man1/javafxpackager.1 [Mac OS X, Linux]`

`man/ja_JP.UTF-8/man1/javafxpackager.1 [Linux]`

JavaFX packager ant tasks
`lib/ant-javafx.jar`

JavaFX doclet for javadoc
`lib/javafx-doclet.jar`

JavaFX support jar for JMX
`lib/javafx-mx.jar`

The Java™ Runtime Environment (JRE™) Java运行环境

The Java Runtime Environment (JRE) is available as a separately downloadable product. See the download web site.

The JRE allows you to run applications written in the Java programming language. Like the JDK, it contains the Java Virtual Machine (JVM), classes comprising the Java platform API, and supporting files. Unlike the JDK, it does not contain development tools such as compilers and debuggers. 不包含“开发工具”

You can freely redistribute the JRE with your application, according to the terms of the JRE license. Once you have developed your application using the JDK, you can ship it with the JRE so your end-users will have a Java platform on which to run your software.

Redistribution

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 Runtime Environment (JRE) with their programs.

Vendors must follow the terms of the Oracle Binary Code License Agreement for the Java SE Platform Products.

Required vs. Optional Files

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

The following section contains a list of the files and directories that may optionally be omitted from redistributions of the JRE. All files not in these lists of optional files must be included in redistributions of the JRE.

Optional Files and Directories

On JDK installations, the JRE directory, containing the redistributable portions, is located in the `jdk1.7.0_<version>/jre` 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).

The following files and directories may be optionally excluded from redistributions.

`bin/server/*` [Microsoft Windows. Available on JDK only, not on JRE]
On Microsoft Windows platforms, the JDK includes both the Java HotSpot™ Server VM and Java HotSpot™ Client VM. However, the JRE for Microsoft Windows platforms includes only the Java HotSpot Client VM.

`dtplugin/*` [Microsoft Windows]
Deployment Toolkit

`plugin2/*` [Microsoft Windows]
Java Plugin - for accessing java through a webbrowser

`bin/rmid`
Java RMI Activation System Daemon **“远程方法调用”激活系统守护进程**

`bin/rmiregistry`
Java Remote Object Registry **远程对象注册**

`bin/tnameserv`
Java IDL Name Server

`bin/keytool`
Key and Certificate Management Tool **“SSL密钥和证书”管理工具**

`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 **“策略文件”创建和管理工具**

`bin/orbd`
Object Request Broker Daemon

`bin/servertool`
Java IDL Server Tool

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

jre/lib/cmm/PYCC.pf [Available on JDK only, not on JRE]
Color profile. This file is required only if one wishes to convert between the PYCC color space and another color space.

jre/lib/ext/
sunjce_provider.jar, sunec.jar, and sunpkcs11.jar -JCE providers for Java Cryptography APIs
localedata.jar - contains many of the resources needed for non US English locales
dnsns.jar - for the InetAddress wrapper of JNDI DNS provider

lib/fonts/*
Font Files

lib/deploy/*

JavaFX related files

THIRDPARTYLICENSEREADME-JAVAFX.txt
JavaFX third-party license information. Can only be excluded if all other JavaFX related files are also excluded.

lib/javafx.properties
JavaFX properties file

lib/jfxrt.jar
JavaFX runtime jar file

lib/security/javafx.policy
JavaFX policy file

JavaFX native libraries [Microsoft Windows]
bin/decora-sse.dll
bin/fxplugins.dll
bin/glass.dll
bin/glib-lite.dll
bin/gstreamer-lite.dll
bin/javafx-font.dll
bin/javafx-iio.dll
bin/jfxmedia.dll
bin/jfxwebkit.dll
bin/libxml2.dll
bin/libxslt.dll

JavaFX native libraries [Mac OS X]
lib/fxplugins.dylib
lib/libdecora-sse.dylib
lib/libglass.dylib
lib/libglib-2.0.0.dylib
lib/libgstplugins-lite.dylib
lib/libgstreamer-lite.dylib
lib/libjavafx-font.dylib
lib/libjavafx-iio.dylib
lib/libjfxmedia.dylib
lib/libjfxwebkit.dylib
lib/libprism-es2.dylib

JavaFX native libraries [Linux-i586]
lib/i386/fxavcodecplugin-52.so
lib/i386/fxavcodecplugin-53.so
lib/i386/fxplugins.so

lib/i386/libglass.so
lib/i386/libgstplugins-lite.so
lib/i386/libgstreamer-lite.so
lib/i386/libjavafx-font.so
lib/i386/libjavafx-iio.so
lib/i386/libjfxmedia.so
lib/i386/libjfxwebkit.so
lib/i386/libprism-es2.so

JavaFX native libraries [Linux-x64]
lib/amd64/fxavcodecplugin-52.so
lib/amd64/fxavcodecplugin-53.so
lib/amd64/fxplugins.so
lib/amd64/libglass.so
lib/amd64/libgstplugins-lite.so
lib/amd64/libgstreamer-lite.so
lib/amd64/libjavafx-font.so
lib/amd64/libjavafx-iio.so
lib/amd64/libjfxmedia.so
lib/amd64/libjfxwebkit.so
lib/amd64/libprism-es2.so

Redistributable JDK Files

The limited set of files and directories from the JDK listed below may be included in vendor redistributions of the Java Runtime Environment (JRE). They cannot be redistributed separately, and must accompany a JRE distribution. 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).

`jre/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 `jre/lib/fonts/` directory.
Note that the LucidaSansRegular.ttf font is already contained in the JRE, so there is no need to bring that file over from the JDK.

字节码编译器

The javac bytecode compiler, consisting of the following files:
`bin/javac` [Solaris Operating System (x86) and Linux]
`bin/sparcv9/javac` [Solaris Operating System (SPARC(R) Platform Edition)]
`bin/amd64/javac` [Solaris Operating System (x64)]
`bin/javac.exe` [Microsoft Windows]
`lib/tools.jar` [All platforms]

注解处理工具

The Annotation Processing Tool, consisting of the following files:
`bin/apt` [Solaris Operating System (x86) and Linux]
`bin/sparcv9/apt` [Solaris Operating System (SPARC(R) Platform Edition)]
`bin/amd64/apt` [Solaris Operating System (x64)]
`bin/apt.exe` [Microsoft Windows]

`lib/jconsole.jar`
The Jconsole application.

动态绑定机制

The dynamic attach mechanism consisting of the following files:
`lib/tools.jar/` [All platforms]
`jre/lib/sparcv9/libattach.so` [Solaris Operating System (SPARC(R) Platform Edition)]
`jre/lib/i386/libattach.so` [Solaris Operating System (x86) and Linux (x86)]
`jre/lib/amd64/libattach.so` [Solaris Operating System (x64) and Linux (x64)]
`jre\bin\attach.dll` [Microsoft Windows]

`jre\bin\server\`
On Microsoft Windows platforms, the JDK includes both the Java HotSpot™ Server VM and Java HotSpot™ Client VM.

However, the JRE for Microsoft Windows platforms includes only the Java HotSpot™ Client VM. Those wishing to use the Java HotSpot Server VM with the JRE may copy the JDK's `jre\bin\server` folder to a `bin\server` directory in the JRE. Software vendors may redistribute the Java HotSpot Server VM with their redistributions of the JRE.

`bin/jarsigner`
JAR Signing and verification tool. **JAR签名和验证工具**

`src.zip`
Archive of source files **源码归档文件**

Unlimited Strength Java Cryptography Extension

Due to import control restrictions for some countries, the Java Cryptography Extension (JCE) policy files shipped with the JDK and the JRE 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 JRE.

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 **证书文件**

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.

Java 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 Process℠ (JCP℠ 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/7/docs/technotes/guides/standards/

Web Pages

For additional information, refer to these Oracle pages on the World Wide Web:

http://www.oracle.com/technetwork/java/ **Java Developers：Java技术的最新信息、产品信息、新闻和功能**
The Java Platform web site, with the latest information on Java technology, product information, news, and features.

http://docs.oracle.com/javase/7/docs/ **Java SE 7 Documentation：提供了“白皮书、Java教程和其他文档”的访问**
Java platform Documentation provides access to white papers, the Java Tutorial and other documents.

http://www.oracle.com/technetwork/java/
Developer Services web site (Free registration required). Additional technical information, news, and features; user forums; support information, and much more.

http://www.oracle.com/technetwork/java/
Java Technology Products & API
