



## OpenJDK 8

### Getting started with OpenJDK 8





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## Abstract

OpenJDK is a Red Hat offering on Microsoft Windows and Red Hat Enterprise Linux platforms. The Getting Started with OpenJDK 8 guide provides an overview of this product and explains how to install the software and start using it.

## Table of Contents

MAKING OPEN SOURCE MORE INCLUSIVE .....	3
PROVIDING FEEDBACK ON RED HAT DOCUMENTATION .....	4
CHAPTER 1. RED HAT BUILD OF OPENJDK OVERVIEW .....	5
CHAPTER 2. DIFFERENCES FROM UPSTREAM OPENJDK 8 .....	6
CHAPTER 3. DISTRIBUTION SELECTION .....	7



## MAKING OPEN SOURCE MORE INCLUSIVE

Red Hat is committed to replacing problematic language in our code, documentation, and web properties. We are beginning with these four terms: master, slave, blacklist, and whitelist. Because of the enormity of this endeavor, these changes will be implemented gradually over several upcoming releases. For more details, see [our CTO Chris Wright's message](#).

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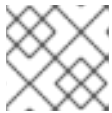
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## CHAPTER 1. RED HAT BUILD OF OPENJDK OVERVIEW

The Red Hat build of OpenJDK is a free and open source implementation of the Java Platform, Standard Edition (Java SE). It is based on the upstream OpenJDK 8u, OpenJDK 11u, and OpenJDK 17u projects and includes the Shenandoah Garbage Collector in all versions.

- **Multi-platform** - The Red Hat build of OpenJDK is now supported on Windows and RHEL. This helps you standardize on a single Java platform across desktop, datacenter, and hybrid cloud.
- **Frequent releases** - Red Hat delivers quarterly updates of JRE and JDK for the OpenJDK 8, OpenJDK 11, and OpenJDK 17 distributions. These are available as **rpm**, portables, **msi**, **zip** files and containers.
- **Long-term support** - Red Hat supports the recently released OpenJDK 8, OpenJDK 11, and OpenJDK 17 distributions. For more information about the support lifecycle, see [OpenJDK Life Cycle and Support Policy](#).
- **Java Web Start** - Red Hat build of OpenJDK supports Java Web Start for RHEL.

## CHAPTER 2. DIFFERENCES FROM UPSTREAM OPENJDK 8

OpenJDK in Red Hat Enterprise Linux contains a number of structural changes from the upstream distribution of OpenJDK. The Windows version of OpenJDK attempts to follow Red Hat Enterprise Linux updates as closely as possible.

The following list details the most notable Red Hat OpenJDK 8 changes:

- FIPS support. Red Hat OpenJDK 8 automatically detects whether the RHEL system is in FIPS mode and automatically configures OpenJDK 8 to operate in that mode. This change does not apply to OpenJDK builds for Microsoft Windows.
- Cryptographic policy support. Red Hat OpenJDK 8 obtains the list of enabled cryptographic algorithms and key size constraints, which are used by for the TLS, a certificate path validation, and signed JARs, from the Red Hat Enterprise Linux system configuration. You can set different security profiles to balance safety and compatibility. This change does not apply to OpenJDK builds for Microsoft Windows.
- Red Hat Enterprise Linux dynamically links against native libraries such as **zlib** for archive format support and **libjpeg-turbo**, **libpng**, and **giflib** for image support. RHEL also dynamically links against **Harfbuzz** and **FreeType** for font rendering and management.
- The **src.zip** file includes the source for all of the JAR libraries shipped with OpenJDK.
- Red Hat Enterprise Linux uses system-wide timezone data files as a source for timezone information.
- Red Hat Enterprise Linux uses system-wide CA certificates.
- Microsoft Windows includes the latest available timezone data from Red Hat Enterprise Linux.
- Microsoft Windows uses the latest available CA certificate from Red Hat Enterprise Linux.

### Additional resources

- For more information about detecting if a system is in FIPS mode, see the [Improve system FIPS detection](#) example on the Red Hat RHEL Planning Jira web page.
- For more information about cryptographic policies, see [Using system-wide cryptographic policies](#) in the Red Hat Enterprise Linux *Security hardening* guide.

## CHAPTER 3. DISTRIBUTION SELECTION

Red Hat provides several distributions of OpenJDK. This module helps you select the distribution that is right for your needs. All distributions of OpenJDK contain the JDK Flight Recorder (JFR) feature. This feature produces diagnostics and profiling data that can be consumed by other applications, such as JDK Mission Control (JMC).

### OpenJDK RPMs for RHEL 8

RPM distributions of OpenJDK 8, OpenJDK 11, and OpenJDK 8 for RHEL 8.

### RHEL

Portable OpenJDK 8 JRE archive distribution for RHEL 7 and 8 hosts.

### OpenJDK 8 portable archive for RHEL

Portable OpenJDK 8 archive distribution for RHEL 7 and 8 hosts.

### OpenJDK 11 JRE portable archive for RHEL

Portable OpenJDK 11 JRE archive distribution for RHEL 7 and 8 hosts.

### OpenJDK 11 portable archive for RHEL

Portable OpenJDK 11 archive distribution for RHEL 7 and 8 hosts.

### OpenJDK 8 JRE portable archive for RHEL

Portable OpenJDK 8 JRE archive distribution for RHEL 7 and 8 hosts.

### OpenJDK 8 portable archive for RHEL

Portable OpenJDK 8 archive distribution for RHEL 7 and 8 hosts.

### OpenJDK archive for Windows

OpenJDK 8, OpenJDK 11, and OpenJDK 8 distributions for all supported Windows hosts. Recommended for cases where multiple OpenJDK versions may be installed on a host. This distribution includes the following:

- Java Web Start
- Mission Control

### OpenJDK installers for Windows

OpenJDK 8, OpenJDK 11, and OpenJDK 8 MSI installers for all supported Windows hosts. Optionally installs Java Web Start and sets environment variables. Suitable for system wide installs of a single OpenJDK version.

### Additional resources

- For more information about the JDK Flight Recorder (JFR), see [Introduction to JDK Flight Recorder](#).
- For more information about the JDK Flight Recorder (JFR), see [Introduction to JDK Mission Control](#).
- JDK Mission Control is available for RHEL with [Red Hat Software Collections 3.2](#).