



## Red Hat build of OpenJDK 11

# Getting started with Red Hat build of OpenJDK 11



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## Abstract

Red Hat build of OpenJDK is a Red Hat offering on Microsoft Windows and Red Hat Enterprise Linux platforms. The Getting Started with Red Hat build of OpenJDK 11 guide provides an overview of this product and explains how to install the software and start using it.

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# PROVIDING FEEDBACK ON RED HAT BUILD OF OPENJDK DOCUMENTATION

To report an error or to improve our documentation, log in to your Red Hat Jira account and submit an issue. If you do not have a Red Hat Jira account, then you will be prompted to create an account.

## Procedure

1. Click the following link to [create a ticket](#).
2. Enter a brief description of the issue in the **Summary**.
3. Provide a detailed description of the issue or enhancement in the **Description**. Include a URL to where the issue occurs in the documentation.
4. Clicking **Submit** creates and routes the issue to the appropriate documentation team.

## 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](#).



## CHAPTER 1. RED HAT BUILD OF OPENJDK OVERVIEW

OpenJDK is a free and open source implementation of the Java Platform, Standard Edition (Java SE). The Red Hat build of OpenJDK 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 Red Hat build of OpenJDK 8, Red Hat build of OpenJDK 11, and Red Hat build of OpenJDK 17 distributions. These are available as **rpm**, portables, **msi**, **zip** files and containers.
- **Long-term support** - Red Hat supports the recently released Red Hat build of OpenJDK 8, Red Hat build of OpenJDK 11, and Red Hat build of 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 11

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

The following list details the most notable Red Hat build of OpenJDK 11 changes:

- FIPS support. Red Hat build of OpenJDK 11 automatically detects whether RHEL is in FIPS mode and automatically configures Red Hat build of OpenJDK 11 to operate in that mode. This change does not apply to Red Hat build of OpenJDK builds for Microsoft Windows.
- Cryptographic policy support. Red Hat build of OpenJDK 11 obtains the list of enabled cryptographic algorithms and key size constraints from RHEL. These configuration components are used by the Transport Layer Security (TLS) encryption protocol, the certificate path validation, and any signed JARs. You can set different security profiles to balance safety and compatibility. This change does not apply to Red Hat build of OpenJDK builds for Microsoft Windows.
- Red Hat build of OpenJDK on RHEL 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 the JAR libraries shipped with Red Hat build of OpenJDK.
- Red Hat build of OpenJDK on RHEL uses system-wide timezone data files as a source for timezone information.
- Red Hat build of OpenJDK on RHEL uses system-wide CA certificates.
- Red Hat build of OpenJDK on Microsoft Windows includes the latest available timezone data from RHEL.
- Red Hat build of OpenJDK on Microsoft Windows uses the latest available CA certificate from RHEL.

### 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.
- For more information about cryptographic policies, see [Using system-wide cryptographic policies](#).

## CHAPTER 3. DISTRIBUTION SELECTION

Red Hat provides several distributions of Red Hat build 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).

### Red Hat build of OpenJDK RPMs for RHEL 8

RPM distributions of Red Hat build of OpenJDK 8, Red Hat build of OpenJDK 11, and Red Hat build of OpenJDK 11 for RHEL 8.

### Red Hat build of OpenJDK 8 JRE portable archive for RHEL

Portable Red Hat build of OpenJDK 8 JRE archive distribution for RHEL 7 and 8 hosts.

### Red Hat build of OpenJDK 8 portable archive for RHEL

Portable Red Hat build of OpenJDK 8 archive distribution for RHEL 7 and 8 hosts.

### Red Hat build of OpenJDK 11 JRE portable archive for RHEL

Portable Red Hat build of OpenJDK 11 JRE archive distribution for RHEL 7 and 8 hosts.

### Red Hat build of OpenJDK 11 portable archive for RHEL

Portable Red Hat build of OpenJDK 11 archive distribution for RHEL 7 and 8 hosts.

### Red Hat build of OpenJDK 11 JRE portable archive for RHEL

Portable Red Hat build of OpenJDK 11 JRE archive distribution for RHEL 7 and 8 hosts.

### Red Hat build of OpenJDK 11 portable archive for RHEL

Portable Red Hat build of OpenJDK 11 archive distribution for RHEL 7 and 8 hosts.

### Red Hat build of OpenJDK archive for Windows

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

- Java Web Start
- Mission Control

### Red Hat build of OpenJDK installers for Windows

Red Hat build of OpenJDK 8, Red Hat build of OpenJDK 11, and Red Hat build of OpenJDK 11 MSI installers for all supported Windows hosts. Optionally installs Java Web Start and sets environment variables. Suitable for system wide installs of a single Red Hat build of 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](#).

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