



Red Hat build of OpenJDK 11

Release notes for Red Hat build of OpenJDK 11.0.10

Red Hat build of OpenJDK 11 Release notes for Red Hat build of OpenJDK 11.0.10

Legal Notice

Copyright © 2024 Red Hat, Inc.

The text of and illustrations in this document are licensed by Red Hat under a Creative Commons Attribution–Share Alike 3.0 Unported license ("CC-BY-SA"). An explanation of CC-BY-SA is available at

<http://creativecommons.org/licenses/by-sa/3.0/>

. In accordance with CC-BY-SA, if you distribute this document or an adaptation of it, you must provide the URL for the original version.

Red Hat, as the licensor of this document, waives the right to enforce, and agrees not to assert, Section 4d of CC-BY-SA to the fullest extent permitted by applicable law.

Red Hat, Red Hat Enterprise Linux, the Shadowman logo, the Red Hat logo, JBoss, OpenShift, Fedora, the Infinity logo, and RHCE are trademarks of Red Hat, Inc., registered in the United States and other countries.

Linux[®] is the registered trademark of Linus Torvalds in the United States and other countries.

Java[®] is a registered trademark of Oracle and/or its affiliates.

XFS[®] is a trademark of Silicon Graphics International Corp. or its subsidiaries in the United States and/or other countries.

MySQL[®] is a registered trademark of MySQL AB in the United States, the European Union and other countries.

Node.js[®] is an official trademark of Joyent. Red Hat is not formally related to or endorsed by the official Joyent Node.js open source or commercial project.

The OpenStack[®] Word Mark and OpenStack logo are either registered trademarks/service marks or trademarks/service marks of the OpenStack Foundation, in the United States and other countries and are used with the OpenStack Foundation's permission. We are not affiliated with, endorsed or sponsored by the OpenStack Foundation, or the OpenStack community.

All other trademarks are the property of their respective owners.

Abstract

This document provides an overview of new features in Red Hat build of OpenJDK 11, as well as a list of potential known issues and possible workarounds.

Table of Contents

PREFACE	3
PROVIDING FEEDBACK ON RED HAT BUILD OF OPENJDK DOCUMENTATION	4
MAKING OPEN SOURCE MORE INCLUSIVE	5
CHAPTER 1. SUPPORT POLICY FOR RED HAT BUILD OF OPENJDK	6
CHAPTER 2. DIFFERENCES FROM UPSTREAM OPENJDK 11	7
CHAPTER 3. RED HAT BUILD OF OPENJDK FEATURES	8
3.1. NEW FEATURES AND ENHANCEMENTS	8
3.1.1. Added -groupname option to keytool key pair generation command	8
3.1.2. Added support for X25519 and X448 in TLS	8
3.1.3. Added default native GSS-API library on Windows	9
3.1.4. Added jarsigner to preserve POSIX file permission and symlink attribute	9

PREFACE

Open Java Development Kit (OpenJDK) is a free and open source implementation of the Java Platform, Standard Edition (Java SE). The Red Hat build of Red Hat build of OpenJDK is available in two versions, Red Hat build of OpenJDK 8u and Red Hat build of OpenJDK 11u.

Packages for the Red Hat build of Red Hat build of OpenJDK are made available on Red Hat Enterprise Linux and Microsoft Windows and shipped as a JDK and JRE in the Red Hat Container Catalog.

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.

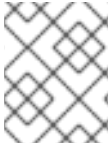
MAKING OPEN SOURCE MORE INCLUSIVE

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. SUPPORT POLICY FOR RED HAT BUILD OF OPENJDK

Red Hat will support select major versions of Red Hat build of OpenJDK in its products. For consistency, these are the same versions that Oracle designates as long-term support (LTS) for the Oracle JDK.

A major version of Red Hat build of OpenJDK will be supported for a minimum of six years from the time that version is first introduced. For more information, see the [OpenJDK Life Cycle and Support Policy](#).



NOTE

RHEL 6 reached the end of life in November 2020. Because of this, Red Hat build of OpenJDK is not supporting RHEL 6 as a supported configuration.

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. RED HAT BUILD OF OPENJDK FEATURES

3.1. NEW FEATURES AND ENHANCEMENTS

This section describes the new features introduced in this release. It also contains information about changes in the existing features.



NOTE

For all the other changes and security fixes, see <https://mail.openjdk.java.net/pipermail/jdk-updates-dev/2021-January/004689.html>.

3.1.1. Added `-groupname` option to `keytool` key pair generation command

A new `-groupname` option has been added to the `keytool -genkeypair` command. Use the `-groupname` option to specify a named elliptic curve (EC) group when generating a key pair.

For example, the following command generates an EC key pair using the `secp384r1` curve: `keytool -genkeypair -keyalg EC -groupname secp384r1`

It is recommended that you use the `-groupname` option over the `-keysize` option, because there might be multiple curves of the same size.

For more information, see [JDK-8213821](#).

3.1.2. Added support for `X25519` and `X448` in TLS

The named elliptic curve groups `x25519` and `x448` are now available for JSSE key agreement in TLS versions 1.0 to 1.3.

The curve group `x25519` is the most preferred of the default enabled named groups. The default ordered list is as follows:

- `x25519`
- `secp256r1`
- `secp384r1`
- `secp521r1`
- `x448`
- `secp256k1`
- `ffdhe2048`
- `ffdhe3072`
- `ffdhe4096`
- `ffdhe6144`
- `ffdhe8192`

Use the system property **`jdk.tls.namedGroups`** to override the default list.

For more information, see [JDK-8225764](#).

3.1.3. Added default native GSS-API library on Windows

A native GSS-API library has been added to JDK on the Windows platform. The library is client-side only and uses the default credentials. It is activated by setting the **`sun.security.jgss.native`** system property to "true". A user can still make use of a third-party native GSS-API library instead by setting the system property **`sun.security.jgss.lib`** to its path.

For more information, see [JDK-8214079](#).

3.1.4. Added jarsigner to preserve POSIX file permission and symlink attribute

When signing a file that contains POSIX file permission or symlink attributes, **`jarsigner`** now preserves these attributes in the newly signed file but warns that these attributes are unsigned and not protected by the signature. The same warning is printed during the **`jarsigner -verify`** operation for such files.



NOTE

The **`jar`** tool does not read or write these attributes. This change is more visible to tools like **`unzip`** where these attributes are preserved.

For more information, see [JDK-8248263](#).

Revised on 2024-05-09 16:46:18 UTC