Red Hat build of OpenJDK 11

Release notes for Red Hat build of OpenJDK 11.0.15

Last Updated: 2024-05-09

Red Hat build of OpenJDK 11 Release notes for Red Hat build of OpenJDK 11.0.15

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Abstract

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

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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 three versions: Red Hat build of OpenJDK 8u, Red Hat build of OpenJDK 11u, and Red Hat build of OpenJDK 17u.

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 Ecosystem 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.

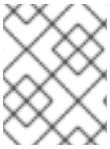
MAKING OPEN SOURCE MORE INCLUSIVE

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:

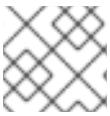
- FIPS support. Red Hat build of OpenJDK 11 automatically detects whether RHEL is in FIPS mode and automatically configures Red Hat build of OpenJDK 11 to operate in that mode. This change does not apply to Red Hat build of OpenJDK builds for Microsoft Windows.
- Cryptographic policy support. Red Hat 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

The latest Red Hat build of OpenJDK 11 release might include new features. Additionally, this latest release might enhance, deprecate, or remove features that originated from previous Red Hat build of OpenJDK 11 releases.



NOTE

For all the other changes and security fixes, see OpenJDK 11.0.15 Released.

3.1. RED HAT BUILD OF OPENJDK NEW FEATURES AND ENHANCEMENTS

Review the following release notes to understand new features and feature enhancements that have been included with the Red Hat build of OpenJDK 11.0.15 release:

SunPKCS11 provider supports new cipher and keygenerator

The SunPKCS11 provider now supports the following services and algorithms when the PKCS11 library supports the related PKCS#11 mechanism:

- If the PKCS11 library supports the CKM_CHACHA20_KEY_GEN mechanism:
  - ChaCha20 KeyGenerator
- If the PKCS11 library supports the CKM_CHACHA20_POLY1305 mechanism:
  - ChaCha20-Poly1305 Cipher
  - ChaCha20-Poly1305 AlgorithmParameters
  - ChaCha20 SecretKeyFactory

JDK-8255410 contains more information.

Alternative Data Streams (ADS) behavior on Red Hat build of OpenJDK for Microsoft Windows

The Red Hat build of OpenJDK 11 for Microsoft Windows release fixes an issue where some Java applications failed because **java.io.FileOutputStream** would not open some files containing a colon (**:**) character. This issue occurred because the default value for **jdk.io.File.enableADS** was set to **false**.

This Red Hat build of OpenJDK 11 for Microsoft Windows release sets the default value for the **jdk.io.File.enableADS** to **true**. By default, Red Hat build of OpenJDK can now write to Alternative Data Streams and to special files in Microsoft Windows, such as the **NUL:** file.

You can disable Red Hat build of OpenJDK's capability to write to ADS by choosing one of the following options:

- Pass the **-Djdk.io.File.enableADS=false** parameter to your Red Hat build of OpenJDK deployment.
- Set the **JAVA_TOOL_OPTIONS** environment variable to **JAVA_TOOL_OPTIONS=-Djdk.io.File.enableADS=false**.

IMPORTANT

Implementing one of these settings might cause issues with how your Java applications write data into files for your Red Hat build of OpenJDK 11 for Microsoft Windows build.

See JDK-8285445 (JDK Bug System)

CHAPTER 4. KNOWN ISSUES

Red Hat build of OpenJDK 11 might include known issues. Solutions might exist for some of these known issues.

XPath expressions

Red Hat build of OpenJDK 11 specifies new default limits for **XPath** expressions. If you find that your code is exceeding these limits, you can raise them by passing the following parameters to your Red Hat build of OpenJDK deployment or by setting the **JAVA_TOOL_OPTIONS** environment variable to use them:

- -Djdk.xml.xpathExprGrpLimit, which defaults to 10
- -Djdk.xml.xpathExprOpLimit, which defaults to 100
- -Djdk.xml.xpathTotalOpLimit, which defaults to 10,000

These default limits restrict the number of expression groups, the number of operators in a single expression, and the total number of operators.

CHAPTER 5. ADVISORIES RELATED TO THIS RELEASE

The following advisories have been issued to bugfixes and CVE fixes included in this release.

- RHSA-2022:1435
- RHSA-2022:1439
- RHSA-2022:1440
- RHSA-2022:1441
- RHSA-2022:1442
- RHSA-2022:1443
- RHSA-2022:1444
- RHBA-2022:1446
- RHBA-2022:1447

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