Red Hat build of OpenJDK 11

Release notes for Red Hat build of OpenJDK 11.0.18

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Legal Notice

Abstract

The Release notes for Red Hat build of OpenJDK 11.0.18 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 OpenJDK is available in three versions: 8u, 11u, and 17u.

Packages for the 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.

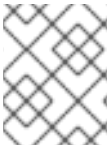
MAKING OPEN SOURCE MORE INCLUSIVE

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:

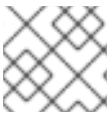
- FIPS support. Red Hat build of OpenJDK 11 automatically detects whether RHEL is in FIPS mode and automatically configures Red Hat build of OpenJDK 11 to operate in that mode. This change does not apply to Red Hat build of OpenJDK builds for Microsoft Windows.
- Cryptographic policy support. Red Hat 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, the 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 11.0.18 Released.

Red Hat build of OpenJDK new features and enhancements

Review the following release notes to understand new features and feature enhancements that are included with the Red Hat build of OpenJDK 11.0.18 release:

Enhanced BMP bounds

By default, Red Hat build of OpenJDK 11.0.18 disables loading a linked International Color Consortium (ICC) profile in a BMP image. You can enable this functionality by setting the new **sun.imageio.bmp.enabledLinkedProfiles** property to **true**. This property replaces the old **sun.imageio.plugins.bmp.disableLinkedProfiles** property

See JDK-8295687 (JDK Bug System).

Improved banking of sounds

Previously, the **SoundbankReader** implementation, **com.sun.media.sound.JARSoundbankReader**, downloaded a JAR soundbank from a URL. For Red Hat build of OpenJDK 11.0.18, this behavior is now disabled by default. To re-enable the behavior, set the new system property **jdk.sound.jarsoundbank** to **true**.

See JDK-8293742 (JDK Bug System).

Enhanced Datagram Transport Layer Security (DTLS) performance

Red Hat build of OpenJDK now exchanges DTLS cookies for all new and resumed handshake communications.

To re-enable the previous release behavior, set the new system property **jdk.tls.enableDtlsResumeCookie** to **false**.

See JDK-8287411 (JDK Bug System).

SunMSCAPI provider supports new Microsoft Windows keystore types

The **SunMSCAPI** provider supports the following Microsoft Windows keystore types where you must append your local namespace to *Windows-*:

- **Windows-MY-LOCALMACHINE**
- **Windows-ROOT-LOCALMACHINE**
- **Windows-MY-CURRENTUSER**
- **Windows-ROOT-CURRENTUSER**

By specifying any of these types, you can provide access to your local computer's location for the Microsoft Windows keystore. Thereby providing the keystore access to certificates that are stored on your local system.

See JDK-6782021 (JDK Bug System).

Added note for **LoginModule** implementation

The Red Hat build of OpenJDK 9 release changed the **Set** implementation, which holds principals and credentials, so that the implementation can reject **null** values. Any attempts to call **add(null)**, **contains(null)**, or **remove(null)** would throw a **NullPointerException** message.

The Red Hat build of OpenJDK 9 release did not update the **logout()** method in the **LoginModule** implementation to check for **null** values. These values could occur because of a failed login attempt, which can cause a **logout()** call to throw a **NullPointerException** message.

The Red Hat build of OpenJDK 11.0.18 release updates the **LoginModule** implementations to check for **null** values. Additionally, the release adds an implementation note to the specification that states the change also applies to third-party modules. The note advises developers of third-party modules to verify that a **logout()** method does not throw a **NullPointerException** message.

- See JDK-8015081 (JDK Bug System).
- See JDK-8282730 (JDK Bug System).

CHAPTER 4. ADVISORIES RELATED TO THIS RELEASE

The following advisories are issued to bug fixes and CVE fixes included in this release:

- RHSA-2023:0194
- RHSA-2023:0195
- RHSA-2023:0196
- RHSA-2023:0197
- RHSA-2023:0198
- RHSA-2023:0199
- RHSA-2023:0200
- RHSA-2023:0201
- RHSA-2023:0202

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