



# Red Hat build of OpenJDK 17

## Release notes for Red Hat build of OpenJDK 17.0.2



# Red Hat build of OpenJDK 17 Release notes for Red Hat build of OpenJDK 17.0.2

---

## Legal Notice

Copyright © 2023 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<sup>®</sup> is the registered trademark of Linus Torvalds in the United States and other countries.

Java<sup>®</sup> is a registered trademark of Oracle and/or its affiliates.

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

MySQL<sup>®</sup> is a registered trademark of MySQL AB in the United States, the European Union and other countries.

Node.js<sup>®</sup> 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<sup>®</sup> 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 17, and a list of potential known issues and possible workarounds.

---

## Table of Contents

<b>PREFACE</b> .....	<b>3</b>
<b>MAKING OPEN SOURCE MORE INCLUSIVE</b> .....	<b>4</b>
<b>PROVIDING FEEDBACK ON RED HAT DOCUMENTATION</b> .....	<b>5</b>
<b>CHAPTER 1. SUPPORT POLICY FOR RED HAT BUILD OF OPENJDK</b> .....	<b>6</b>
<b>CHAPTER 2. DIFFERENCES FROM UPSTREAM OPENJDK 17</b> .....	<b>7</b>
<b>CHAPTER 3. OPENJDK FEATURES</b> .....	<b>8</b>
3.1. NEW FEATURES AND ENHANCEMENTS .....	<b>8</b>
IANA Time Zone Database .....	8
3.2. OPENJDK ENHANCEMENTS .....	<b>8</b>
OpenJDK's identification of Microsoft Windows versions .....	8
System property behavior change .....	8
Vector class update .....	8
Z Garbage Collector bug fix .....	9
3.3. DEPRECATED AND REMOVED FEATURES .....	<b>9</b>
Google GlobalSign root certificate .....	9
<b>CHAPTER 4. KNOWN ISSUES</b> .....	<b>10</b>
Debug packages moved to the RHEL 8.5 CodeReady Linux Builder (CRB) repository .....	10
<b>CHAPTER 5. ADVISORIES RELATED TO THIS RELEASE</b> .....	<b>11</b>



## PREFACE

Red Hat build of OpenJDK (Open Java Development Kit) 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.

## 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](#).



# PROVIDING FEEDBACK ON RED HAT DOCUMENTATION

We appreciate your feedback on our documentation. To provide feedback, you can highlight the text in a document and add comments.

This section explains how to submit feedback.

## Prerequisites

- You are logged in to the Red Hat Customer Portal.
- In the Red Hat Customer Portal, view the document in **Multi-page HTML** format.

## Procedure

To provide your feedback, perform the following steps:

1. Click the **Feedback** button in the top-right corner of the document to see existing feedback.



### NOTE

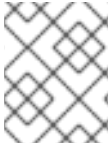
The feedback feature is enabled only in the **Multi-page HTML** format.

2. Highlight the section of the document where you want to provide feedback.
3. Click the **Add Feedback** pop-up that appears near the highlighted text.  
A text box appears in the feedback section on the right side of the page.
4. Enter your feedback in the text box and click **Submit**.  
A documentation issue is created.
5. To view the issue, click the issue tracker link in the feedback view.

## 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 versions remain similar to Oracle JDK versions that are designated as long-term support (LTS).

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 17

Red Hat build of OpenJDK in Red Hat Enterprise Linux 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 Red Hat Enterprise Linux updates as closely as possible.

The following list details the most notable Red Hat build of OpenJDK 17 changes:

- FIPS support. Red Hat build of OpenJDK 17 automatically detects whether RHEL is in FIPS mode and automatically configures Red Hat build of OpenJDK 17 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 17 obtains the list of enabled cryptographic algorithms and key size constraints from the RHEL system configuration. 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. This change does not apply to Red Hat build of OpenJDK builds for Microsoft Windows.
- The **src.zip** file includes the source for all of 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

- See, [Improve system FIPS detection \(RHEL Planning Jira\)](#)
- See, [Using system-wide cryptographic policies \(RHEL documentation\)](#)

## CHAPTER 3. OPENJDK FEATURES

The latest Red Hat build of OpenJDK 17 release might include new features. Additionally, the latest release might enhance, deprecate, or remove features that originated from previous Red Hat build of OpenJDK 17 releases.



### NOTE

For all the other changes and security fixes, see [OpenJDK 17.0.2 Released](#).

### 3.1. 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 17.0.2 release:

#### IANA Time Zone Database

The Internet Assigned Numbers Authority (IANA) updated its Time Zone Database to version 2021c. Red Hat OpenJDK date and time libraries depends on IANA's Time Zone Database for determining local time for various regions around the world.



### NOTE

The 2021b release of the Time Zone Database updated time zone rules that existed before 1970. For more information about the 2021b release, see [2021b release of tz code and data available](#) on the *IANA* website.

For more information about IANA's 2021c Time Zone Database release, see [JDK-8274857](#).

For more information about IANA's Time Zone Database, see [Time Zone Database](#) on the *IANA* website.

### 3.2. OPENJDK ENHANCEMENTS

Red Hat build of OpenJDK 17 provides enhancements to features originally created in previous releases of Red Hat build of OpenJDK.

#### OpenJDK's identification of Microsoft Windows versions

Before the Red Hat build of OpenJDK 17 release, the **os.name** system property that is retrieved from **System.getProperty()** and the HotSpot error logs would report **Windows 10.0** on Microsoft Windows 11 and **Windows Server 2019** on Microsoft Windows Server 2022. Red Hat build of OpenJDK now identifies the correct version on these systems.

#### System property behavior change

Red Hat build of OpenJDK 17 reverts the behavior of the **file.encoding** system property to a state identical to Red Hat build of OpenJDK 11 on most supported platforms, except for macOS. This change improves how the system property behaves on the Microsoft Windows platform, where the system locales and user locales differ.

For more information about the behavior change to the **file.encoding** system property, see [JDK-8275343](#).

#### Vector class update

Red Hat build of OpenJDK 17 updates the **java.util.Vector** class, so that this class now reports any **ClassNotFoundException** messages that have been generated with the **java.io.ObjectInputStream.GetField.get(name, object)** method during the deserialization process.

These exception messages occur when a vector's class, wrapped inside an element, is not found.

Before the **java.util.Vector** class update, the class reported any **StreamCorruptedException** messages when the previously detailed incident occurred. A **StreamCorruptedException** message does not provide information about a missing class.

For more information about the update to the **java.util.Vector** class, see [JDK-8277157](#).

### Z Garbage Collector bug fix

Before the Red Hat build of OpenJDK 17 update, the Z Garbage Collector (ZGC) experienced lengthy Concurrent Process Non-strong References times that caused latency and throughput issues for Java applications that use ZGC for memory management. You could determine these lengthy times by entering the **-Xlog:gc\*** against a garbage collector (GC) log in your command-line interface.

The Red Hat build of OpenJDK 17 release removes the bug that caused these issues, so the ZGC can now achieve shorter Concurrent Process Non-strong References times.

For more information about ZGC bug fix, see [JDK-8277533](#).

## 3.3. DEPRECATED AND REMOVED FEATURES

Review the following release notes to understand pre-existing features that have been either deprecated or removed in the Red Hat build of OpenJDK 17.0.2 release:

### Google GlobalSign root certificate

Red Hat build of OpenJDK 17.0.2 removes the following root certificate from the **cacerts** keystore:

#### Alias name

globalsignr2ca [jdk]

#### Distinguished name

CN=GlobalSign, O=GlobalSign, OU=GlobalSign Root CA - R2

For more information about this removed Google GlobalSign root certificate, see [JDK-8272535](#).

## CHAPTER 4. KNOWN ISSUES

Red Hat build of OpenJDK 17 might include known issues. Solutions might exist for some of these known issues.

### Debug packages moved to the RHEL 8.5 CodeReady Linux Builder (CRB) repository

#### Description

RHEL 8.5 moved the **java-17-openjdk-slowdebug-debuginfo** and **java-17-openjdk-fastdebug-debuginfo** packages to the CodeReady Linux Builder (CRB) repository, where the **java-openjdk-slowdebug** and **java-openjdk-fastdebug** packages are already located. This repository contains developer packages. Red Hat had planned to move these packages to the CRB repository earlier in the lifecycle of RHEL 8.5. However, this movement did not occur.

You might have installed the **java-17-openjdk-slowdebug-debuginfo** and **java-17-openjdk-fastdebug-debuginfo** packages when these packages were located in the AppStream repository.

You can check if you installed the **java-17-openjdk-slowdebug-debuginfo** or **java-17-openjdk-fastdebug-debuginfo** packages by issuing the following command in your CLI:

```
$ rpm -qa | grep java-.*debug-debuginfo
```

You can continue to use the **java-17-openjdk-slowdebug-debuginfo** and **java-17-openjdk-fastdebug-debuginfo** packages for debugging purposes on your Java application, but you must enable the CRB repository to receive updates for these packages.

#### Workaround

If you installed the **java-17-openjdk-slowdebug-debuginfo** and **java-17-openjdk-fastdebug-debuginfo** packages, you must choose one of the following options:

- Uninstall these packages by issuing the following command in your CLI:

```
$ dnf remove java-17-openjdk-<package-name>
```

- Enable the CRB repository by issuing the following command in your CLI:

```
$ dnf config-manager --set-enabled rhel-8-crb-debug-rpms
```



#### IMPORTANT

Red Hat does not fully support packages that are contained within the CRB repository. Ensure you understand the potential risks of using any unsupported debug packages on your Java applications.

For more information about the CRB repository on RHEL 8.5, see [Package Manifest](#) guide in the *Red Hat Enterprise Linux* documentation.

## CHAPTER 5. ADVISORIES RELATED TO THIS RELEASE

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

- [RHSA-2022:0161](#)
- [RHSA-2022:0165](#)
- [RHSA-2022:0166](#)

*Revised on 2023-11-02 16:10:23 UTC*