



## Red Hat build of OpenJDK 11

### Release notes for Eclipse Temurin 11.0.20





## 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<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

The release notes for Eclipse Temurin 11.0.20 provide an overview of new features in OpenJDK 11 and a list of potential known issues and possible workarounds.

---

## Table of Contents

<b>PREFACE</b> .....	<b>3</b>
<b>PROVIDING FEEDBACK ON RED HAT BUILD OF OPENJDK DOCUMENTATION</b> .....	<b>4</b>
<b>MAKING OPEN SOURCE MORE INCLUSIVE</b> .....	<b>5</b>
<b>CHAPTER 1. SUPPORT POLICY FOR ECLIPSE TEMURIN</b> .....	<b>6</b>
<b>CHAPTER 2. ECLIPSE TEMURIN 11.0.20.1 RELEASE NOTES</b> .....	<b>7</b>
Fixed Invalid CEN header error on valid .zip files	7
Increased default value of jdk.jar.maxSignatureFileSize system property	7
Fixed NullPointerException when handling null addresses	7
<b>CHAPTER 3. ECLIPSE TEMURIN FEATURES</b> .....	<b>8</b>
New features and enhancements	8
Reduced risk of JVM crash when using <code>GregorianCalendar.computeTime()</code>	8
Additional characters for GB18030-2022 support allowed	8
Support for GB18030-2022	8
Enhanced ZIP performance	8
Enhanced validation of JAR signature	9
Legal headers for generated files	9
GTS root certificate authority (CA) certificates added	9
Microsoft Corporation root CA certificates added	9
TWCA root CA certificate added	10
Enhanced contents (trusted certificate entries) of macOS KeychainStore	10



## PREFACE

Open Java Development Kit (OpenJDK) is a free and open-source implementation of the Java Platform, Standard Edition (Java SE). Eclipse Temurin is available in three LTS versions: OpenJDK 8u, OpenJDK 11u, and OpenJDK 17u.

Binary files for Eclipse Temurin are available for macOS, Microsoft Windows, and multiple Linux x86 Operating Systems including Red Hat Enterprise Linux and Ubuntu.

## 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.



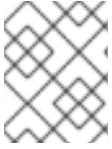
## MAKING OPEN SOURCE MORE INCLUSIVE

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 ECLIPSE TEMURIN

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



### NOTE

RHEL 6 reached the end of life in November 2020. Because of this, Eclipse Temurin does not support RHEL 6 as a supported configuration.

## CHAPTER 2. ECLIPSE TEMURIN 11.0.20.1 RELEASE NOTES

Eclipse Temurin does not contain structural changes from the upstream distribution of OpenJDK.

Review the following release notes for an overview of the changes from the Eclipse Temurin 11.0.20.1 patch release.



### NOTE

For all the other changes and security fixes, see [OpenJDK 11.0.20.1 Released](#).

### Fixed Invalid CEN header error on valid .zip files

OpenJDK 11.0.20 introduced additional validation checks on the **ZIP64** fields of **.zip** files (JDK-8302483). However, these additional checks caused validation failures on some valid **.zip** files with the following error message: **Invalid CEN header (invalid zip64 extra data field size)**.

To fix this issue, OpenJDK 11.0.20.1 supports zero-length headers and the additional padding that some **ZIP64** creation tools produce. From OpenJDK 11.0.20 onward, you can disable these checks by setting the **jdk.util.zip.disableZip64ExtraFieldValidation** system property to **true**.

See [JDK-8313765 \(JDK Bug System\)](#)

### Increased default value of **jdk.jar.maxSignatureFileSize** system property

OpenJDK 11.0.20 introduced a **jdk.jar.maxSignatureFileSize** system property for configuring the maximum number of bytes that are allowed for the signature-related files in a Java archive (JAR) file ([JDK-8300596](#)). By default, the **jdk.jar.maxSignatureFileSize** property was set to 8000000 bytes (8 MB), which was too small for some JAR files.

OpenJDK 11.0.20.1 increases the default value of the **jdk.jar.maxSignatureFileSize** property to 16000000 bytes (16 MB).

See [JDK-8313216 \(JDK Bug System\)](#)

### Fixed **NullPointerException** when handling null addresses

In OpenJDK 11.0.20, when the serviceability agent encountered null addresses while generating thread dumps, the serviceability agent produced a **NullPointerException**.

OpenJDK 11.0.20.1 handles null addresses appropriately.

See [JDK-8243210 \(JDK Bug System\)](#)

## CHAPTER 3. ECLIPSE TEMURIN FEATURES

Eclipse Temurin does not contain structural changes from the upstream distribution of OpenJDK.

For the list of changes and security fixes that the latest OpenJDK 11 release of Eclipse Temurin includes, see [OpenJDK 11.0.20 Released](#).

### New features and enhancements

Review the following release notes to understand new features and feature enhancements included with the Eclipse Temurin 11.0.20 release:

#### Reduced risk of JVM crash when using `GregorianCalendar.computeTime()`

In OpenJDK 11.0.19, a virtual machine crash could occur when using the `GregorianCalendar.computeTime()` method ([JDK-8307683](#)). Even though an old issue is the root cause of this JVM crash, a recent fix for a rare issue in the C2 compiler ([JDK-8297951](#)) significantly increased the probability of the JVM crash. To mitigate risk, the OpenJDK 11.0.20 release excludes the fix for the C2 compiler. Once the root cause of the JVM crash is resolved ([JDK-8307683](#)), OpenJDK will reintroduce the fix for the C2 compiler ([JDK-8297951](#)).

See [JDK-8308884 \(JDK Bug System\)](#).

#### Additional characters for GB18030-2022 support allowed

To support "Implementation Level 1" of the GB18030-2022 standard, OpenJDK must support the use of five additional characters that are beyond the scope of Unicode 10, which OpenJDK 11 is based on. Maintenance Release 2 of the Java SE 11 specification adds support for these additional characters, which OpenJDK 11.0.20 implements.

The additional characters are as follows:

- 0x82359632 U+9FEB
- 0x82359633 U+9FEC
- 0x82359634 U+9FED
- 0x82359635 U+9FEE
- 0x82359636 U+9FEF

See [JDK-8301401 \(JDK Bug System\)](#).

#### Support for GB18030-2022

The Chinese Electronics Standardization Institute (CESI) recently published GB18030-2022 as an update to the GB18030 standard, synchronizing the character set with Unicode 11.0. The GB18030-2022 standard is now the default GB18030 character set that OpenJDK 11.0.20 uses. However, this updated character set contains incompatible changes compared with GB18030-2000, which previous releases of OpenJDK 11 used. From OpenJDK 11.0.20 onward, if you want to use the previous version of the character set, ensure that the new system property `jdk.charset.GB18030` is set to **2000**.

See [JDK-8301119 \(JDK Bug System\)](#).

#### Enhanced ZIP performance

The OpenJDK 11.0.20 release includes enhanced checks on the **ZIP64** fields of **.zip** files. If these checks cause failures on trusted **.zip** files, you can disable these checks by setting the new system property `jdk.util.zip.disableZip64ExtraFieldValidation` to **true**.

JDK bug system reference ID: JDK-8302483.

### Enhanced validation of JAR signature

You can now configure the maximum number of bytes that are allowed for the signature-related files in a Java archive (JAR) file by setting a new system property, **jdk.jar.maxSignatureFileSize**. By default, the **jdk.jar.maxSignatureFileSize** property is set to **8000000** bytes (8 MB).

JDK bug system reference ID: JDK-8300596.

### Legal headers for generated files

The **javadoc** tool now supports the inclusion of legal files, which pertain to the licensing of files that the standard doclet generates. You can use the new **--legal-notices** command-line option to configure this feature.

See [JDK-8259530 \(JDK Bug System\)](#).

### GTS root certificate authority (CA) certificates added

In the OpenJDK 11.0.20 release, the **cacerts** truststore includes four Google Trust Services (GTS) root certificates:

#### Certificate 1

- Name: Google Trust Services LLC
- Alias name: gtsrootcar1
- Distinguished name: CN=GTS Root R1, O=Google Trust Services LLC, C=US

#### Certificate 2

- Name: Google Trust Services LLC
- Alias name: gtsrootcar2
- Distinguished name: CN=GTS Root R2, O=Google Trust Services LLC, C=US

#### Certificate 3

- Name: Google Trust Services LLC
- Alias name: gtsrootcar3
- Distinguished name: CN=GTS Root R3, O=Google Trust Services LLC, C=US

#### Certificate 4

- Name: Google Trust Services LLC
- Alias name: gtsrootcar4
- Distinguished name: CN=GTS Root R4, O=Google Trust Services LLC, C=US

See [JDK-8307134 \(JDK Bug System\)](#).

### Microsoft Corporation root CA certificates added

In the OpenJDK 11.0.20 release, the **cacerts** truststore includes two Microsoft Corporation root certificates:

#### Certificate 1

- Name: Microsoft Corporation
- Alias name: microsoftecc2017
- Distinguished name: CN=Microsoft ECC Root Certificate Authority 2017, O=Microsoft Corporation, C=US

#### Certificate 2

- Name: Microsoft Corporation
- Alias name: microsoftrsa2017
- Distinguished name: CN=Microsoft RSA Root Certificate Authority 2017, O=Microsoft Corporation, C=US

See [JDK-8304760 \(JDK Bug System\)](#).

#### TWCA root CA certificate added

In the OpenJDK 11.0.20 release, the **cacerts** truststore includes the Taiwan Certificate Authority (TWCA) root certificate:

- Name: TWCA
- Alias name: twcaglobalrootca
- Distinguished name: CN=TWCA Global Root CA, OU=Root CA, O=TAIWAN-CA, C=TW

See [JDK-8305975 \(JDK Bug System\)](#).

#### Enhanced contents (trusted certificate entries) of macOS KeychainStore

Recent changes to the macOS **KeychainStore** implementation were incomplete and considered certificates within the user domain only. In the OpenJDK 11.0.20 release, the macOS **KeychainStore** implementation exposes certificates from both the user domain and the administrator domain. The macOS **KeychainStore** implementation also now excludes certificates that include a **deny** entry in the trust settings.

See [JDK-8303465 \(JDK Bug System\)](#).

*Revised on 2024-05-09 16:48:18 UTC*