Red Hat build of OpenJDK 11

Release notes for Eclipse Temurin 11.0.20

Last Updated: 2023-11-02

Legal Notice

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.

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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). 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.

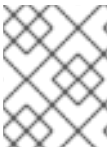
MAKING OPEN SOURCE MORE INCLUSIVE

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).

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