Red Hat build of OpenJDK 11

Release notes for Eclipse Temurin 11.0.21

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Legal Notice

Abstract

The release notes for Eclipse Temurin 11.0.21 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.

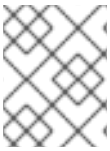
MAKING OPEN SOURCE MORE INCLUSIVE

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 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 11.0.21 Released.

2.1. NEW FEATURES AND ENHANCEMENTS

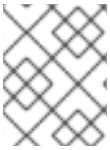
Review the following release notes to understand new features and feature enhancements included with the Eclipse Temurin 11.0.21 release:

Increased default group size of TLS Diffie-Hellman

In OpenJDK 11.0.21, the JDK implementation of TLS 1.2 uses a default Diffie-Hellman key size of 2048 bits. This supersedes the behavior in previous releases where the default Diffie-Hellman key size was 1024 bits.

This enhancement is relevant when a **TLS_DHE** cipher suite is negotiated and either the client or the server does not support Finite Field Diffie-Hellman Ephemeral (FFDHE) parameters. The JDK TLS implementation supports FFDHE, which is enabled by default and can negotiate a stronger key size.

As a workaround, you can revert to the previous key size by setting the **jdk.tls.ephemeralDHKeySize** system property to **1024**. However, to mitigate risk, consider using the default key size of 2048 bits.



NOTE

This change does not affect TLS 1.3, which already uses a minimum Diffie-Hellman key size of 2048 bits.

See JDK-8301700 (JDK Bug System).

Server-side cipher suite preferences used by default

In OpenJDK 11.0.21, the SunJSSE provider uses the local server-side cipher suite preferences by default. This supersedes the behavior in previous releases where the server used the preferences that the connecting client specified.

You can revert to the previous behavior by using **SSLParameters.setUseCipherSuitesOrder(false)** on the server side.

See JDK-8168261 (JDK Bug System).

Support for RSA keys in PKCS#1 format

JDK providers can now accept Rivest–Shamir–Adleman (RSA) private and public keys in PKCS#1 format, such as the RSA **KeyFactory.impl** from the SunRsaSign provider. This feature requires that the RSA private or public key object has a PKCS#1 format and an encoding that matches the ASN.1 syntax for a PKCS#1 RSA private key and public key.

See JDK-8023980 (JDK Bug System).

Output of -XshowSettings:locale option includes tzdata version

In OpenJDK 11.0.21, the **-XshowSettings** launcher option also prints the **tzdata** version that the JDK uses. The **tzdata** version is displayed as part of the output for the **-XshowSettings:locale** option.

For example:

```
Locale settings:
    default locale = English
    default display locale = English
    default format locale = English
    tzdata version = 2023c
```

See JDK-8305950 (JDK Bug System).

Certigna root CA certificate added

In OpenJDK 11.0.21, the **cacerts** truststore includes the following Certigna root certificate:

- Name: Certigna (Dhimyotis)
- Alias name: certignarootca
- Distinguished name: CN=Certigna Root CA, OU=0002 48146308100036, O=Dhimyotis, C=FR

See JDK-8314960 (JDK Bug System).

Error thrown if default java.security file fails to load

In previous releases, if the **java.security** file failed to load successfully, OpenJDK used a hardcoded set of security properties. However, this set of properties was poorly maintained and it was not obvious to users that the JDK was using these utilities.

To address this issue, if the **java.security** file fails to load successfully, OpenJDK 11.0.21 throws an **InternalError** instead.

See JDK-8155246 (JDK Bug System).

Arrays cloned in several JAAS callback classes

In previous releases, in the **ChoiceCallback** and **ConfirmationCallback** JAAS classes, when arrays were passed into a constructor or returned, these arrays were not cloned. This behavior allowed an external program to gain access to the internal fields of these classes.

In OpenJDK 11.0.21, the JAAS classes return cloned arrays.

See JDK-8242330 (JDK Bug System).

2.2. DEPRECATED FEATURES

Review the following release notes to understand pre-existing features that have been either deprecated or removed in Eclipse Temurin 11.0.21:

SECOM Trust Systems root CA1 certificate removed

From OpenJDK 11.0.21 onward, the **cacerts** truststore no longer includes the SECOM Trust Systems root certificate:

- Alias name: secomscrootca1 [jdk]
- Distinguished name: OU=Security Communication RootCA1, O=SECOM Trust.net, C=JP

See JDK-8295894 (JDK Bug System).

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