



## Red Hat build of OpenJDK 11

### Release notes for Red Hat build of OpenJDK 11.0.11



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## Abstract

This document provides an overview of new features in Red Hat build of OpenJDK 11, as well as 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 two versions, Red Hat build of OpenJDK 8u and Red Hat build of OpenJDK 11u.

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.



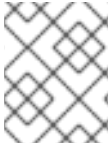
## MAKING OPEN SOURCE MORE INCLUSIVE

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.

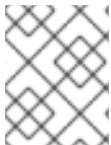
### Additional resources

- 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

### 3.1. NEW FEATURES AND ENHANCEMENTS

This section describes the new features introduced in this release. It also contains information about changes in the existing features.



#### NOTE

For all the other changes and security fixes, see <https://mail.openjdk.java.net/pipermail/jdk-updates-dev/2021-April/005860.html>

#### 3.1.1. Added LDAP channel binding support for Java GSS/Kerberos

A new JNDI environment property **com.sun.jndi.ldap.tls.cbtype** is added to enable TLS Channel Binding data in LDAP authentication over SSL/TLS protocol to the Windows AD server. The only valid value at present is **tls-server-end-point**, where channel binding data is created on the base of the TLS server certificate. See [RFC-5929](#) and the **java.naming** module description for further details.

For more information, see [JDK-8258824](#).

#### 3.1.2. Added two HARICA root CA certificates

The following two HARICA root certificates are added to the cacerts truststore:

- Alias Name: haricarootca2015  
Distinguished Name: CN=Hellenic Academic and Research Institutions RootCA 2015, O=Hellenic Academic and Research Institutions Cert. Authority, L=Athens, C=GR
- Alias Name: haricaeccrootca2015  
Distinguished Name: CN=Hellenic Academic and Research Institutions ECC RootCA 2015, O=Hellenic Academic and Research Institutions Cert. Authority, L=Athens, C=GR

For more information, see [JDK-8260597](#).

#### 3.1.3. Disabled TLS 1.0 and 1.1 versions

TLS 1.0 and 1.1 versions of the TLS protocol that are no longer considered secure and are superseded by more secure and modern TLS 1.2 and 1.3 versions.

TLS 1.0 and 1.1 versions are now disabled by default. If you encounter issues, you can re-enable the versions (at your own risk) by removing **TLSv1** or **TLSv1.1** from the **jdk.tls.disabledAlgorithms** security property in the **java.security** configuration file.

For more information, see [JDK-8256490](#).

#### 3.1.4. Enhanced `jdeps --print-module-deps` reports transitive dependencies

The **jdeps --print-module-deps**, **--list-deps**, and **--list-reduce-deps** options are enhanced as follows:

1. By default, they perform transitive module dependence analysis on libraries on the classpath and module path, both directly and indirectly, as required by the given input JAR files or classes. Previously, they only reported the modules required by the given input JAR files or classes. The

**--no-recursive** option can be used to request non-transitive dependence analysis.

2. By default, they flag any missing dependency, i.e. not found from classpath and module path, as an error. The **--ignore-missing-deps** option can be used to suppress missing dependence errors. Note that a custom image is created with the list of modules output by `jdeps` when using the **--ignore-missing-deps** option for a non-modular application. Such an application, running on the custom image, might fail at runtime when missing dependence errors are suppressed.

For more information, see [JDK-8214213](#).

### 3.1.5. XML declaration is not followed by a new line

The DOM Load and Save **LSSerializer** does not have an explicit control for whether or not the XML Declaration ends with a new line. In this release, a JDK implementation specific property <http://www.oracle.com/xml/jaxp/properties/isStandalone> and corresponding System property **jdk.xml.isStandalone** are added to control the addition of a new line and act independently without having to set the pretty-print property. This property can be used to reverse the incompatible change introduced in Java SE 7 Update 4 with an update of Xalan 2.7.1 where a newline is omitted when pretty-print is required.

For more information, see [JDK-8249867](#) and the **java.xml** module-summary.

## CHAPTER 4. ADVISORIES RELATED TO THIS RELEASE

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

- [RHSA-2021:1307](#)
- [RHSA-2021:1306](#)
- [RHSA-2021:1305](#)
- [RHSA-2021:1297](#)
- [RHSA-2021:1447](#)
- [RHSA-2021:1446](#)

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