OpenJDK 11

Release notes for OpenJDK 11.0.11

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Abstract
This document provides an overview of new features in OpenJDK 11, as well as a list of potential known issues and possible workarounds.
## Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREFACE</td>
<td>3</td>
</tr>
<tr>
<td>MAKING OPEN SOURCE MORE INCLUSIVE</td>
<td>4</td>
</tr>
<tr>
<td>CHAPTER 1. SUPPORT POLICY FOR OPENJDK</td>
<td>5</td>
</tr>
<tr>
<td>CHAPTER 2. DIFFERENCES FROM UPSTREAM OPENJDK 11</td>
<td>6</td>
</tr>
<tr>
<td>CHAPTER 3. OPENJDK FEATURES</td>
<td>7</td>
</tr>
<tr>
<td>3.1. NEW FEATURES AND ENHANCEMENTS</td>
<td>7</td>
</tr>
<tr>
<td>3.1.1. Added LDAP channel binding support for Java GSS/Kerberos</td>
<td>7</td>
</tr>
<tr>
<td>3.1.2. Added two HARICA root CA certificates</td>
<td>7</td>
</tr>
<tr>
<td>3.1.3. Disabled TLS 1.0 and 1.1 versions</td>
<td>7</td>
</tr>
<tr>
<td>3.1.4. Enhanced jdeps --print-module-deps reports transitive dependencies</td>
<td>7</td>
</tr>
<tr>
<td>3.1.5. XML declaration is not followed by a new line</td>
<td>8</td>
</tr>
<tr>
<td>CHAPTER 4. ADVISORIES RELATED TO THIS RELEASE</td>
<td>9</td>
</tr>
</tbody>
</table>
PREFACE

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 two versions, OpenJDK 8u and 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.
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 OPENJDK

Red Hat will support select major versions of OpenJDK in its products. For consistency, these versions will be the same ones that Oracle designates 'LTS' for the Oracle JDK.

A major version of OpenJDK will be supported for a minimum of six years from the time it is first introduced.

OpenJDK 11 is supported on Microsoft Windows and Red Hat Enterprise Linux until October 2024.

NOTE

RHEL 6 has reached the end of life in November 2020. Due to this, OpenJDK is not supporting RHEL 6 as a supporting configuration.

For more information, see the OpenJDK Life Cycle and Support Policy.
CHAPTER 2. DIFFERENCES FROM UPSTREAM OPENJDK 11

OpenJDK in Red Hat Enterprise Linux contains a number of structural changes from the upstream distribution of OpenJDK. The Windows version of OpenJDK tries to follow Red Hat Enterprise Linux as closely as possible.

The most notable changes are the following:

- On Red Hat Enterprise Linux, we dynamically link against native libraries such as zlib for archive format support and libjpeg-turbo, libpng, and giflib for image support. Likewise, we dynamically link against HarfBuzz and Freetype for font rendering and management. On Microsoft Windows, these libraries are built from the sources of the corresponding Red Hat Enterprise Linux RPMs and packaged as dynamic-link libraries (DLLs).

- On Red Hat Enterprise Linux, system-wide timezone data files are used as a source for timezone information. On Microsoft Windows, the latest available timezone data from Red Hat Enterprise Linux is included.

- On Red Hat Enterprise Linux, system-wide CA certificates are used. On Microsoft Windows, the latest available CA certificate from Red Hat Enterprise Linux is used.

- The src.zip file includes the source for all of the JAR libraries shipped with OpenJDK.
CHAPTER 3. 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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