



Red Hat JBoss Enterprise Application Platform 7.4

Red Hat JBoss EAP XP 3.0.0 Release Notes

For Use with JBoss EAP XP 3.0.0

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Abstract

This document provides general information about the JBoss EAP XP 3.0.0 release.

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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](#).

PROVIDING FEEDBACK ON RED HAT DOCUMENTATION

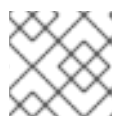
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- In the Red Hat Customer Portal, view the document in **Multi-page HTML** format.

Procedure

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NOTE

The feedback feature is enabled only in the **Multi-page HTML** format.

2. Highlight the section of the document where you want to provide feedback.
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4. Enter your feedback in the text box and click **Submit**.
You have created a documentation issue.
5. To view the issue, click the issue tracker link in the feedback view.

CHAPTER 1. NEW FEATURES AND ENHANCEMENTS

1.1. MIGRATION

Migration tools

You can choose any one of the following tools to upgrade and migrate your JBoss EAP XP 2.0.0 product to the JBoss EAP XP 3.0.0 product:

- JBoss Server Migration Tool
- Migration Toolkit for Applications (MTA)

You cannot use the JBoss EAP XP manager to upgrade and migrate your JBoss EAP XP 2.0.0 product to the JBoss EAP XP 3.0.0 product.

Additional resources

- For more information about the JBoss Server Migration Tool, see [Use the JBoss Server Migration Tool to migrate your server configurations](#) in the *JBoss EAP XP Migration Guide*.
- For more information about the Migration Toolkit for Applications, see [Use the Migration Toolkit for Applications to analyze applications for migration](#) in the *JBoss EAP XP Migration Guide*.

Name change for a configuration element

For JBoss EAP XP 3.0.0, the **extraServerContentDirs** configuration element replaces the **extraServerContent** configuration element. This replacement aligns with the pre-existing **extra-server-content-dirs** element.

If you used the **extraServerContent** element in your JBoss EAP Maven plug-in configuration, you must replace this element with the **extraServerContentDirs** element. If you used the **extra-server-content-dirs** element then you do not need to make any configuration changes.

Additional resources

- For more information about the **extra-server-content-dirs** configuration element, see [Enabling HTTP authentication for bootable JAR with a CLI script](#) in the Using MicroProfile with JBoss EAP XP 3.0.0 guide.

1.2. MICROPROFILE

Support for MicroProfile 4.0

JBoss EAP XP 3.0 is compatible with MicroProfile 4.0 specifications.

Support for MicroProfile Config 2.0

JBoss EAP supports MicroProfile Config 2.0, which is part of MicroProfile 4.0. This [Config](#) interface introduces new methods.

For more information about the changes, see [Release Notes for MicroProfile Config 2.0](#).

Support for MicroProfile Metrics 3.0

JBoss EAP supports MicroProfile Metrics 3.0, which is part of MicroProfile 4.0. The breaking changes of the new release include the following :

- Removed everything related to reusability from the API code. All metrics are now considered reusable.
- Changed metric registration. The CDI producers annotated with **@Metric** no longer trigger metric registration. You must use the **MetricRegistry** methods for registering a metric.
- Changed **MetricRegistry** from abstract class to interface.

For a complete list of changes, see [Changes in 3.0](#).

Support for MicroProfile Health 3.0

JBoss EAP supports MicroProfile Health 3.0, which is part of MicroProfile 4.0. The major changes are the following:

- Pruned **@Health** qualifier
- Fixed **HealthCheckResponse** deserialization issue

This component upgrade also covers the upgrade of smallrye-health 3.0.0 that implements MicroProfile Health 3.0. For more information, see [Release Notes for MicroProfile Health 3.0](#).

Support for MicroProfile OpenTracing 2.0

JBoss EAP supports MicroProfile OpenTracing 2.0, which is part of MicroProfile 4.0. The new release removes the following APIs:

- **Scope = ScopeManager.active()**
- **Scope = ScopeManager.activate(Span, boolean)**
- **Span = Scope.span()**
- **Scope = SpanBuilder.startActive()**
- **Span = Tracer.startManual()**
- **AutoFinishScopeManager**

For more information, see [Release 2.0](#).

Support for MicroProfile Fault Tolerance 3.0

JBoss EAP supports MicroProfile Fault Tolerance 3.0, which is part of MicroProfile 4.0. The new release has the following breaking changes:

- Metric names and scopes changed. MicroProfile Metrics 2.0 added metric tags, and as a result, some information, previously included in the metric name, is now included in tags.
- Life cycle of circuit breakers and bulkheads is specified. The circuit breakers and bulkheads hold state between invocations, so their life cycle is important for correct functioning.

For more information, see [Release Notes for MicroProfile Fault Tolerance 3.0](#).

1.3. BOOTABLE JAR

Ability to update the server configuration of a bootable JAR file at runtime

You can now update the server configuration of a bootable JAR file at runtime using the **--cli-script=<path to CLI script>** argument. In the argument, <path to CLI script> means the path to a JBoss CLI script, a text file in Unicode Transformation Format 8-bit (UTF-8), to execute when starting the

bootable JAR.

This new functionality has the following caveats:

- If you perform any operation that requires a server restart, the bootable JAR server exits, which is the normal behavior of a bootable JAR restart.
- You cannot execute the following JBoss CLI commands at runtime: **connect**, **reload**, **shutdown**, **jdbc-driver-info**, and any command related to embedded server and **patch**.

Ability to upgrade bootable JAR server components

You can upgrade the following server components present in a bootable JAR when building the JAR file from the bootable JAR maven plugin:

- The JAR files for **JBoss Modules** module, such as **undertow-core**.
- **EAP 7.4.x Galleon feature-pack**, which is a dependency of the **XP 3.0.x Galleon feature-pack**.

1.4. QUICKSTARTS

OpenShift quickstarts

Quickstarts released in JBoss EAP XP 1.0.0 to support OpenShift were Tech Preview.

As of JBoss EAP XP 3.0.0, these quickstarts are fully supported.

MicroProfile quickstarts for the bootable JAR

JBoss EAP XP 3.0.0 provides MicroProfile quickstarts that you can use to understand the bootable JAR feature.

Each quickstart provides a small, specific, working bootable JAR example. Use the quickstarts to run and test bootable JAR examples on your chosen platform.



NOTE

MicroProfile quickstarts cannot be used to build and test a hollow bootable JAR.

Use the following MicroProfile quickstarts to test the bootable JAR on either a bare-metal platform or an OpenShift platform:

- MicroProfile Config
- MicroProfile Fault Tolerance
- MicroProfile Health
- MicroProfile JWT
- MicroProfile Metrics
- MicroProfile OpenAPI
- MicroProfile OpenTracing
- MicroProfile REST Client

Quickstart for MicroProfile Reactive Messaging 1.0

JBoss EAP XP 3.0.0 provides a new quickstart and guide for MicroProfile Reactive Messaging 1.0 that describes the basic functionalities.

You can use in-memory streams and streams backed by the Apache Kafka platform. If you are using a bare metal system, you can use the Docker platform to access Apache Kafka functionalities. On OpenShift, you can access Apache Kafka functionalities using the AMQ Streams operator.

1.5. TECHNOLOGY PREVIEW FEATURES

MicroProfile Reactive Messaging 1.0 for AMQ Streams integration

JBoss EAP XP now supports MicroProfile Reactive Messaging 1.0. You can use the MicroProfile Reactive Messaging 1.0 APIs to interact with AMQ Streams 2021.Q2. That means, with JBoss EAP XP working as a message relay, you can consume, process, and produce messages within your application. This technology preview functionality is available on OpenShift Container Platform.

CHAPTER 2. MAINTENANCE SUPPORT

2.1. MAINTENANCE SUPPORT FOR JBOSS EAP XP

When a new JBoss EAP XP major version is released, maintenance support for the previous major version begins. Maintenance support usually lasts for 12 weeks.

If you use a JBoss EAP XP major version that is outside of its maintenance support length, you might experience issues as the development of security patches and bug fixes no longer apply. To avoid such issues, upgrade to the newest JBoss EAP XP major version release that is compatible with your JBoss EAP version.

Additional resources

- For information about maintenance support, see the [Red Hat JBoss Enterprise Application Platform expansion pack \(JBoss EAP XP or EAP XP\) Life Cycle and Support Policies](#) located on the Red Hat Customer Portal.

CHAPTER 3. UNSUPPORTED FEATURES AND DEPRECATED FEATURES

3.1. UNSUPPORTED FEATURES

Support for some technologies is removed due to the high maintenance cost, low community interest, and better alternative solutions. The following features are not supported in JBoss EAP XP 3.0.0:

Platforms and features

Oracle Solaris

JBoss EAP deprecated the following platforms in version 7.1. These platforms are not tested in JBoss EAP 7.4.

- Oracle Solaris on x86_64
- Oracle Solaris on SPARCv9

JBoss EAP 7.4 does not include the WildFly SSL natives for these platforms. As a result, SSL operations in Oracle Solaris platforms might be slower than they were on previous versions of JBoss EAP.

OpenJDK 8 image and image streams

Beginning with version 3.0, JBoss EAP XP no longer provides or supports OpenJDK 8 images or image streams.

RESTEasy parameters

RESTEasy provides a Servlet 3.0 **ServletContainerInitializer** integration interface that performs an automatic scan of resources and providers for a servlet. Containers can use this integration interface to start an application. Therefore, use of the following RESTEasy parameters is no longer supported:

- `resteasy.scan`
- `resteasy.scan.providers`
- `resteasy.scan.resources`

Red Hat JBoss Operations Network

Using Red Hat JBoss Operations Network (JON) for JBoss EAP management is deprecated since JBoss EAP version 7.2. For JBoss EAP 7.4, support for Red Hat JON for JBoss EAP management is deprecated.

MS SQL Server 2017

MS SQL Server 2017 is not supported in JBoss EAP 7.4.

For a complete list of unsupported features in JBoss EAP 7.4, see the [Unsupported features](#) section in JBoss EAP 7.4 Release Notes.

3.2. DEPRECATED FEATURES

Some features have been deprecated with this release. This means that no enhancements are made to these features, and they might be removed in the future, usually the next major release.

Red Hat continues to provide full support and bug fixes under our standard support terms and conditions. For more information about the Red Hat support policy for JBoss EAP XP, see the [Red Hat JBoss Enterprise Application Platform expansion pack life cycle and support policies](#) located on the

Red Hat Customer Portal.

OpenJDK11 OpenShift images support multiple architectures

OpenJ9 images for IBM Z and IBM Power Systems will be deprecated. The following **OpenJDK11** Builder and Runtime images have been updated to support multiple architectures:

- **jboss-eap-7/eap-xp3-openjdk11-openshift-rhel8** (Builder image)
- **jboss-eap-7/eap-xp3-openjdk11-runtime-openshift-rhel8** (Runtime image)

You can use the OpenJDK11 images with the following architectures:

- x86 (x86_64)
- s390x (IBM Z)
- ppc64le (IBM Power Systems)

If you want to use the **OpenJ9** Java Virtual Machine (JVM) with the **OpenJDK11** images, see [Java Change in Power and Z OpenShift Images](#).

Galleon layers

The **jms-activemq** decorator layer is deprecated, and this layer has been replaced with the **messaging-activemq** layer.

Operating systems

- Microsoft Windows Server on i686
- Red Hat Enterprise Linux (RHEL) 6 on i686

Databases and database connectors

- IBM DB2 11.1
- PostgreSQL / EnterpriseDB 11
- MariaDB 10.1
- MS SQL 2017

Server Side JavaScript

JBoss EAP Server Side JavaScript support, which was provided as a Technology Preview functionality, is deprecated.

Lightweight Directory Access Protocol (LDAP) servers

- Red Hat Directory Server 10.0
- Red Hat Directory Server 10.1

Spring BOM

The following Spring BOM that is located in the Red Hat Maven repository is now deprecated:

- **jboss-eap-jakartaee8-with-spring4**

Although Red Hat tests that Spring applications run on JBoss EAP XP 3.0.0, you must use the latest version of the Spring Framework and its BOMs (for example, **x.y.z.RELEASE**) for developing your applications on JBoss EAP XP 3.0.0.

For more information about versions of the Spring Framework, see [Spring Framework Versions](#) on *GitHub*.

Java Development Kits

- Java Development Kit 8 (JDK 8)
- Java Development Kit 11 (JDK 11)
NOTE

In future major JBoss EAP releases, Java SE requirements will be reevaluated based on the industry (for example, Jakarta EE, MicroProfile and so on) and market needs.

JBoss EAP OpenShift templates

JBoss EAP templates for OpenShift are deprecated.

.json templates

The **eap-xp2-third-party-db-s2i.json** template is deprecated and removed in JBoss EAP XP 3.0.0.

The **eap74-beta-starter-s2i.json** and **eap74-beta-third-party-db-s2i.json** templates are deprecated and are removed in JBoss EAP 7.4.0.

Legacy security subsystem

The **org.jboss.as.security** extension and the legacy **security** subsystem it supports are now deprecated. Migrate your security implementations from the **security** subsystem to the **elytron** subsystem.

PicketLink

The **org.wildfly.extension.picketlink** extension, and the **picketlink-federation** and **picketlink-identity-management** subsystems this extension supports, are now deprecated. Migrate your single sign-on implementation to Red Hat Single Sign-On.

PicketBox-based security vault

PicketBox-based security vault, both through the legacy security subsystem and the **core-service=vault** kernel management resources is deprecated.

Managed domain support for previous versions of JBoss EAP

Support for hosts running JBoss EAP 7.3 and earlier versions in a JBoss EAP 7.4 managed domain is deprecated. Migrate the hosts in your managed domains to JBoss EAP 7.4.

Server configuration files using namespaces from JBoss EAP 7.3 and earlier

Using server configuration files (**standalone.xml**, **host.xml**, and **domain.xml**) that include namespaces from JBoss EAP 7.3 and earlier is deprecated in this release. Update your server configuration files to use JBoss EAP 7.4 namespaces.

Agroal subsystem

The Agroal subsystem is deprecated.

application-security-domain resources

The **application-security-domain** resources in **ejb3** and **undertow** subsystems are deprecated.

Resources in the clustering subsystems

The following resources in the clustering subsystems are deprecated:

- The **infinispan** subsystem
 - `/subsystem=infinispan/remote-cache-container=*/component=transaction`
 - `/subsystem=infinispan/remote-cache-container=/near-cache=`
- The **jgroups** subsystem
 - `/subsystem=jgroups/stack=*/protocol=S3_PING`
 - `/subsystem=jgroups/stack=*/protocol=GOOGLE_PING`
- The **modcluster** subsystem

Codehaus Jackson

The Codehaus Jackson 1.x module, which is currently unsupported, is deprecated in JBoss EAP 7.4.

SCRAM mechanisms

The following SCRAM mechanisms and their channel-binding variants are deprecated:

- **SCRAM-SHA-512**
- **SCRAM-SHA-384**

Hibernate ORM 5.1

The Hibernate ORM 5.1 native API bytecode transformer has always been deprecated since it was originally introduced.

HornetQ client

The HornetQ client module is deprecated.

For a complete list of functionalities deprecated in JBoss EAP 7.4, see the [Deprecated features](#) section in JBoss EAP 7.4 Release Notes.

CHAPTER 4. RESOLVED ISSUES AND KNOWN ISSUES

4.1. RESOLVED ISSUES

See [Resolved issues for JBoss EAP XP 3.0.0](#) to view the list of issues that have been resolved for this release.

4.2. KNOWN ISSUES

See [Known issues for JBoss EAP XP 3.0.0](#) to view the list of known issues for this release.