Abstract

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

MAKING OPEN SOURCE MORE INCLUSIVE ................................................................. 4

PROVIDING FEEDBACK ON RED HAT DOCUMENTATION ............................................. 5

CHAPTER 1. NEW FEATURES AND ENHANCEMENTS ......................................................... 6

1.1. MIGRATION 6
   Migration tools 6
   Name change for a configuration element 6

1.2. MICROPROFILE 6
   Support for MicroProfile 4.0 6
   Support for MicroProfile Config 2.0 6
   Support for MicroProfile Metrics 3.0 6
   Support for MicroProfile Health 3.0 7
   Support for MicroProfile OpenTracing 2.0 7
   Support for MicroProfile Fault Tolerance 3.0 7

1.3. BOOTABLE JAR 7
   Ability to update the server configuration of a bootable JAR file at runtime 7
   Ability to upgrade bootable JAR server components 8

1.4. QUICKSTARTS 8
   OpenShift quickstarts 8
   MicroProfile quickstarts for the bootable JAR 8
   Quickstart for MicroProfile Reactive Messaging 1.0 8

1.5. TECHNOLOGY PREVIEW FEATURES 9
   MicroProfile Reactive Messaging 1.0 for AMQ Streams integration 9

CHAPTER 2. MAINTENANCE SUPPORT ............................................................................. 10

2.1. MAINTENANCE SUPPORT FOR JBOSS EAP XP ..................................................... 10

CHAPTER 3. UNSUPPORTED FEATURES AND DEPRECATED FEATURES ......................... 11

3.1. UNSUPPORTED FEATURES 11
   Platforms and features 11
     Oracle Solaris 11
   OpenJDK 8 image and image streams 11
   RESTEasy parameters 11
   Red Hat JBoss Operations Network 11
   MS SQL Server 2017 11

3.2. DEPRECATED FEATURES 11
   OpenJDK11 OpenShift images support multiple architectures 12
   Galleon layers 12
   Operating systems 12
   Databases and database connectors 12
   Server Side JavaScript 12
   Lightweight Directory Access Protocol (LDAP) servers 12
   Spring BOM 12
   Java Development Kits 13
   JBoss EAP OpenShift templates 13
   .json templates 13
   Legacy security subsystem 13
   PicketLink 13
   PicketBox-based security vault 13
   Managed domain support for previous versions of JBoss EAP 13
   Server configuration files using namespaces from JBoss EAP 7.3 and earlier 13
Agroal subsystem 13
application-security-domain resources 13
Resources in the clustering subsystems 13
Codehaus Jackson 14
SCRAM mechanisms 14
Hibernate ORM 5.1 14
HornetQ client 14

CHAPTER 4. RESOLVED ISSUES AND KNOWN ISSUES ................................. 15
4.1. RESOLVED ISSUES 15
4.2. KNOWN ISSUES 15
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

We appreciate your feedback on our documentation. To provide feedback, you can highlight the text in a document and add comments. Follow the steps in the procedure to learn about submitting feedback on Red Hat documentation.

Prerequisites

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

Procedure

1. Click **Feedback** to see existing reader comments.

   **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.

3. In the prompt menu that displays near the text you selected, click **Add Feedback**.
   
   A text box opens in the feedback section on the right side of the page.

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 system.
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 relayer, 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
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-jakartae8-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.