



Red Hat Fuse 7.1

Installing on JBoss EAP

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Abstract

Use this guide to help you install JBoss Fuse on JBoss EAP.

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CHAPTER 1. INSTALLATION GUIDE OVERVIEW

STRUCTURE OF RED HAT FUSE 7.1

In Red Hat Fuse 7.1 you have a choice of installation platforms. Fuse can be installed on Red Hat JBoss Enterprise Application Platform 7.1 (JBoss EAP) or as a standalone Fuse on Karaf package.

The following packages are provided for Fuse on JBoss EAP and Fuse on Karaf.

Installation Type	Components	Prerequisite Packages
Fuse on Karaf	<code>fuse-karaf-7.1.0.fuse-710023-redhat-00001</code>	None
Fuse on JBoss EAP	<code>fuse-eap-installer-7.1.0.fuse-710018-redhat-00001</code>	JBoss EAP 7.1

CHAPTER 2. READ ME

2.1. BACK UP YOUR DATA



WARNING

Red Hat recommends that you back up your system settings and data before undertaking any of the configuration tasks mentioned in this book.

2.2. RED HAT DOCUMENTATION SITE

Red Hat's official documentation site is at <https://access.redhat.com/documentation/en-us/>. There you will find the latest version of every book, including this one.

2.3. EAP_HOME

EAP_HOME refers to the root directory of the Red Hat JBoss Enterprise Application Platform installation on which JBoss Fuse is deployed.

2.4. MODE

MODE refers to the mode that your instance of JBoss EAP is running in. **MODE** will either be **standalone** or **domain**. For more information about **MODE** see [JBoss EAP Operating Modes](#). Substitute either standalone or domain whenever you see **MODE** in a file path in this documentation.

CHAPTER 3. INSTALL FUSE ON JBOSS EAP

PREREQUISITES

Fuse must be installed on JBoss EAP 7.1. If you need to install JBoss EAP 7.1, download it from [JBoss EAP 7.1 Installer Download](#). See [JBoss EAP 7.1 Installation Guide](#) for installation instructions.

RECOMMENDED SOFTWARE

It is recommended that you use Maven with Red Hat Fuse projects. For information about preparing to use Maven, see [Appendix A, Preparing to use Maven](#).

INSTALL FUSE USING INSTALLER

1. Download the *Red Hat Fuse 7.1.0 on EAP Installer* package:
 - a. Browse to the [JBoss Fuse Software Downloads](#) page on the Red Hat Customer Portal and, when prompted, log in to your customer account.
 - b. Select version **7.1.0** from the **Version** dropdown menu and click the **Download** link for the **Red Hat Fuse 7.1.0 on EAP Installer** package.
2. Navigate to `$EAP_HOME` in a clean instance of JBoss EAP.
3. Run the downloaded installer with the following command:

```
java -jar TEMP_LOCATION/fuse-eap-installer-7.1.0.fuse-710018-redhat-00001.jar
```



NOTE

Once a datastore has been selected at installation, it cannot be changed.

CHAPTER 4. START AND STOP THE APPLICATION SERVER

You need to start the JBoss Enterprise Application Platform instance for Fuse to run. This is because the Fuse components run on the JBoss Enterprise Application Platform container.



NOTE

For more information about starting and stopping JBoss Enterprise Application Platform using alternative and more advanced methods, see the [Red Hat JBoss Enterprise Application Platform Configuration Guide](#).

4.1. START JBOSS EAP 7.1

You can start JBoss EAP 7.1 as a standalone server or as a domain server.

Start the Platform Service as a Standalone Server

- For Red Hat Enterprise Linux:
Run the command: **`EAP_HOME/bin/standalone.sh`**
- For Microsoft Windows Server:
Run the command: **`EAP_HOME\bin\standalone.bat`**
- Optionally specify additional parameters:
To print a list of additional parameters to pass to the start-up scripts, use the **`-h`** parameter.

Start the Platform Service as a Domain Server

- For Red Hat Enterprise Linux:
Run the command: **`EAP_HOME/bin/domain.sh`**
- For Microsoft Windows Server:
Run the command: **`EAP_HOME\bin\domain.bat`**
- Optionally specify additional parameters:
To print a list of additional parameters to pass to the start-up scripts, use the **`-h`** parameter.

4.2. STOP JBOSS EAP 7.1

You can stop JBoss EAP using the Management CLI or by pressing **CTRL+C** in the terminal.

To stop JBoss EAP using the Management CLI:

1. Launch the Management CLI by running the **`EAP_HOME/bin/jboss-cli.sh`** command:

```
$ EAP_HOME/bin/jboss-cli.sh
```

2. Connect to the server by running the **`connect`** command:

```
[disconnected /] connect
```

3. Stop the server by running the **`shutdown`** command:

—

```
[standalone@localhost:9999 /] shutdown
```

4. Close the Management CLI by running the **quit** command:

```
[standalone@localhost:9999 /] quit
```

To stop JBoss EAP by pressing **CTRL+C**:

1. Navigate to the terminal where JBoss EAP is running.
2. Press **Ctrl+C** to stop JBoss Enterprise Application Platform.

CHAPTER 5. PATCHING FUSE ON JBOSS EAP

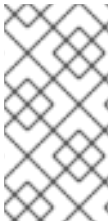
This chapter provides instructions on how to apply patches to the technology stack that belongs to Fuse on JBoss EAP. This does not include patches for the underlying JBoss EAP container, which must be patched separately.

5.1. HOW TO APPLY A PATCH TO FUSE ON JBOSS EAP

To patch an existing installation of Fuse on JBoss EAP, perform the following steps:

1. Browse to the [JBoss Fuse Software Downloads](#) page on the Red Hat Customer Portal and, when prompted, log in to your customer account.
2. Select version **7.1** from the **Version** dropdown menu.
3. Search under the **Patches** tab and the **Security Advisories** tab for the **latest** package of the form **Red Hat JBoss Fuse 7.1 Rollup X on EAP**, where **X** is the number of the rollup patch.
4. Download the patch file, **fuse-eap-installer-7.1.0.redhat-XXX.jar**, to **TEMP_LOCATION**.
5. Open a shell prompt and change directory to the **\$JBOSS_HOME** directory of the existing installation of Fuse on JBoss EAP that you want to patch.
6. From the shell prompt, enter the following command to patch the installation of Fuse on JBoss EAP (replacing the file name with the actual file name of the downloaded patch):

```
java -jar TEMP_LOCATION/fuse-eap-installer-7.1.0.redhat-XXX.jar
```



NOTE

The underlying JBoss EAP instance can be patched independently. Recent patches to JBoss EAP require you to apply patch 9 first (it is a prerequisite for later patches). For more details about patching the JBoss EAP container, see the JBoss EAP **Patching and Upgrading Guide**.

APPENDIX A. PREPARING TO USE MAVEN

A.1. OVERVIEW

This section gives a brief overview of how to prepare Maven for building Red Hat Fuse projects and introduces the concept of Maven coordinates, which are used to locate Maven artifacts.

A.2. PREREQUISITES

In order to build a project using Maven, you must have the following prerequisites:

- **Maven installation** — Maven is a free, open source build tool from Apache. You can download the latest version from the [Maven download page](#).
- **Network connection** — whilst performing a build, Maven dynamically searches external repositories and downloads the required artifacts on the fly. By default, Maven looks for repositories that are accessed over the Internet. You can change this behavior so that Maven will prefer searching repositories that are on a local network.



NOTE

Maven can run in an offline mode. In offline mode Maven only looks for artifacts in its local repository.

A.3. ADDING THE RED HAT MAVEN REPOSITORIES

In order to access artifacts from the Red Hat Maven repositories, you need to add them to Maven's **settings.xml** file. Maven looks for your **settings.xml** file in the **.m2** directory of the user's home directory. If there is not a user specified **settings.xml** file, Maven will use the system-level **settings.xml** file at **M2_HOME/conf/settings.xml**.

To add the Red Hat repositories to Maven's list of repositories, you can either create a new **.m2/settings.xml** file or modify the system-level settings. In the **settings.xml** file, add **repository** elements for the Red Hat repositories as shown in [Adding the Red Hat Fuse Repositories to Maven](#).

Adding the Red Hat Fuse Repositories to Maven

```
<?xml version="1.0"?>
<settings>

  <profiles>
    <profile>
      <id>extra-repos</id>
      <activation>
        <activeByDefault>true</activeByDefault>
      </activation>
      <repositories>
        <repository>
          <id>redhat-ga-repository</id>
          <url>https://maven.repository.redhat.com/ga</url>
          <releases>
            <enabled>true</enabled>
```

```

        </releases>
        <snapshots>
            <enabled>>false</enabled>
        </snapshots>
    </repository>
    <repository>
        <id>redhat-ea-repository</id>

<url>https://maven.repository.redhat.com/earlyaccess/all</url>
        <releases>
            <enabled>>true</enabled>
        </releases>
        <snapshots>
            <enabled>>false</enabled>
        </snapshots>
    </repository>
    <repository>
        <id>jboss-public</id>
        <name>JBoss Public Repository Group</name>

<url>https://repository.jboss.org/nexus/content/groups/public/</url>
    </repository>
</repositories>
<pluginRepositories>
    <pluginRepository>
        <id>redhat-ga-repository</id>
        <url>https://maven.repository.redhat.com/ga</url>
        <releases>
            <enabled>>true</enabled>
        </releases>
        <snapshots>
            <enabled>>false</enabled>
        </snapshots>
    </pluginRepository>
    <pluginRepository>
        <id>redhat-ea-repository</id>

<url>https://maven.repository.redhat.com/earlyaccess/all</url>
        <releases>
            <enabled>>true</enabled>
        </releases>
        <snapshots>
            <enabled>>false</enabled>
        </snapshots>
    </pluginRepository>
    <pluginRepository>
        <id>jboss-public</id>
        <name>JBoss Public Repository Group</name>

<url>https://repository.jboss.org/nexus/content/groups/public</url>
    </pluginRepository>
</pluginRepositories>
</profile>
</profiles>

<activeProfiles>

```

```

    <activeProfile>extra-repos</activeProfile>
  </activeProfiles>

</settings>

```

A.4. ARTIFACTS

The basic building block in the Maven build system is an *artifact*. The output of an artifact, after performing a Maven build, is typically an archive, such as a JAR or a WAR.

A.5. MAVEN COORDINATES

A key aspect of Maven functionality is the ability to locate artifacts and manage the dependencies between them. Maven defines the location of an artifact using the system of *Maven coordinates*, which uniquely define the location of a particular artifact. A basic coordinate tuple has the form, **{*groupId*, *artifactId*, *version*}**. Sometimes Maven augments the basic set of coordinates with the additional coordinates, *packaging* and *classifier*. A tuple can be written with the basic coordinates, or with the additional *packaging* coordinate, or with the addition of both the *packaging* and *classifier* coordinates, as follows:

```

groupId:artifactId:version
groupId:artifactId:packaging:version
groupId:artifactId:packaging:classifier:version

```

Each coordinate can be explained as follows:

groupId

Defines a scope for the name of the artifact. You would typically use all or part of a package name as a group ID — for example, **org.fusesource.example**.

artifactId

Defines the artifact name (relative to the group ID).

version

Specifies the artifact's version. A version number can have up to four parts: **n.n.n.n**, where the last part of the version number can contain non-numeric characters (for example, the last part of **1.0-SNAPSHOT** is the alphanumeric substring, **0-SNAPSHOT**).

packaging

Defines the packaged entity that is produced when you build the project. For OSGi projects, the packaging is **bundle**. The default value is **jar**.

classifier

Enables you to distinguish between artifacts that were built from the same POM, but have different content.

The group ID, artifact ID, packaging, and version are defined by the corresponding elements in an artifact's POM file. For example:

```

<project ... >
  ...
  <groupId>org.fusesource.example</groupId>
  <artifactId>bundle-demo</artifactId>
  <packaging>bundle</packaging>
  <version>1.0-SNAPSHOT</version>

```

```
...  
</project>
```

For example, to define a dependency on the preceding artifact, you could add the following **dependency** element to a POM:

```
<project ... >  
  ...  
  <dependencies>  
    <dependency>  
      <groupId>org.fusesource.example</groupId>  
      <artifactId>bundle-demo</artifactId>  
      <version>1.0-SNAPSHOT</version>  
    </dependency>  
  </dependencies>  
  ...  
</project>
```



NOTE

It is **not** necessary to specify the **bundle** package type in the preceding dependency, because a bundle is just a particular kind of JAR file and **jar** is the default Maven package type. If you do need to specify the packaging type explicitly in a dependency, however, you can use the **type** element.

APPENDIX B. VERIFY YOUR RED HAT JBOSS FUSE INSTALLATION

After you complete the **JBoss Fuse** installation, you can verify if the product has been installed successfully.

If no error was reported, you can verify the installation by performing the following steps:

1. Start the JBoss EAP server by running the **standalone.sh** command
2. Open the **server.log** file to check if any error messages have been logged and that SwitchYard (and other component subsystems) have loaded correctly
3. Open the Fuse Management Console (<http://localhost:8080/hawtio>) in a browser. Sign in using the administrative user that you set up on the JBoss EAP installer. If the Fuse Management Console runs and you can log in then the installation has been successful.

ADD A USER ID TO FUSE ON JBOSS FUSE ON JBOSS EAP

To add administrative users to JBoss EAP, use the **add-user** utility script provided with JBoss EAP.

1. Navigate to **\$EAP_HOME/bin**.
2. Run the **add-user** utility script.
3. Press ENTER to select the default option a to add a management user. All the defaults can be selected by pressing ENTER.
4. Enter a User ID and password. Repeat the password.
5. Enter **yes** to indicate that you want to add the new user ID to the Management Realm.
6. Enter **no** to indicate that the new user ID is not for a remote connection of any kind.

```
[userid@localhost bin] $ ./add-user.sh
```

```
What type of user do you wish to add?
```

- ```
a) Management User (mgmt-users.properties)
b) Application User (application-users.properties)
```

```
(a):
```

```
Enter the details of the new user to add.
```

```
Realm (ManagementRealm) :
```

```
Username : manageuser
```

```
Password requirements are listed below. To modify these restrictions edit
the add-user.properties configuration file.
```

```
- The password must not be one of the following restricted values {root,
admin, administrator}
```

```
- The password must contain at least 8 characters, 1 alphabetic
character(s), 1 digit(s), 1 non-alphanumeric symbol(s)
```

```
- The password must be different from the username
```

```
Password :
```

```
Re-enter Password :
```

```
What groups do you want this user to belong to? (Please enter a comma
separated list, or leave blank for none)[]:
```

```
About to add user 'manageuser' for realm 'ManagementRealm'
Is this correct yes/no? yes
Added user 'manageuser' to file '$EAP_HOME/standalone/configuration/mgmt-
users.properties'
Added user 'manageuser' to file '$EAP_HOME/domain/configuration/mgmt-
users.properties'
Added user 'manageuser' with groups to file
'$EAP_HOME/standalone/configuration/mgmt-groups.properties'
Added user 'manageuser' with groups to file
'$EAP_HOME/domain/configuration/mgmt-groups.properties'
Is this new user going to be used for one AS process to connect to another
AS process?
e.g. for a slave host controller connecting to the master or for a
Remoting connection for server to server EJB calls.
yes/no? no
```

For more information about creating users on JBoss EAP see [Adding a Management User](#) in the JBoss EAP Administration and Configuration Guide.