Installation of JBoss EAP

Goals

After completing this section, you should be able to do the following:

• Describe the methods available for installing JBoss EAP 8.

• Instalar JBoss EAP 8

EAP 8 Installation Methods

There are four main methods to install EAP 8:

1. **Zip file: EAP 8 is distributed as a zip file that can be extracted and run on an operating system with Java 11 or Java 17 installed. It contains all the libraries, configuration files, and scripts needed to start EAP, with no further customization.**
   This is generally the option of choice for developers interested in using EAP 8 out of the box.

2. **RPM: EAP 8 is available as an RPM package for users with a valid subscription to the JBoss Enterprise Application Platform subchannel, in the JBoss Enterprise Application Platform group. The RPMs will be downloaded to the host OS using the yum command. All files required to start and manage EAP will be installed.**

   ### use

   The RPM installation method is only relevant for the RHEL OS.

3. **GUI Installer: It is a Java-based application, responsible for offering a way to customize environment settings step by step. Due to its portable nature, it can be used on multiple platforms and requires Java 11 or Java 17 installed on the host OS. It can be run using a graphical interface or a text-based console. Due to its flexible nature, it can be installed using an answer file, with all options entered as an XML file, to allow installation of EAP 8 on multiple hosts in an automated manner.**

4. **Containerized EAP – Alternatively, EAP is also provided as an image based on Docker and can be retrieved from the Red Hat Docker Registry. It was developed to support the deployment of Red Hat Enterprise Linux Atomic Host and OpenShift Java EE, and is part of Red Hat's xPaaS initiative for a widespread of PAD. Using this image, developers can easily build, scale, and test applications deployed in hybrid environments.**

Configuration Management Tools In large deployment scenarios, where EAP 8

must be installed on multiple servers with a consistent configuration, configuration management tools such as Ansible and Puppet can be used. Multiple Puppet and Ansible modules have been developed to simplify the deployment and upgrade process for JBoss EAP.

EAP 8 Installation

To install EAP, use one of the following commands:

- The easiest way to install EAP is by extracting the ZIP file. This it is generally the package option for developers, as no configuration is needed. To unzip the EAP 8 zip file, run the following command in a terminal:

```
$ unzip jboss-eap-8.0.0.zip
```
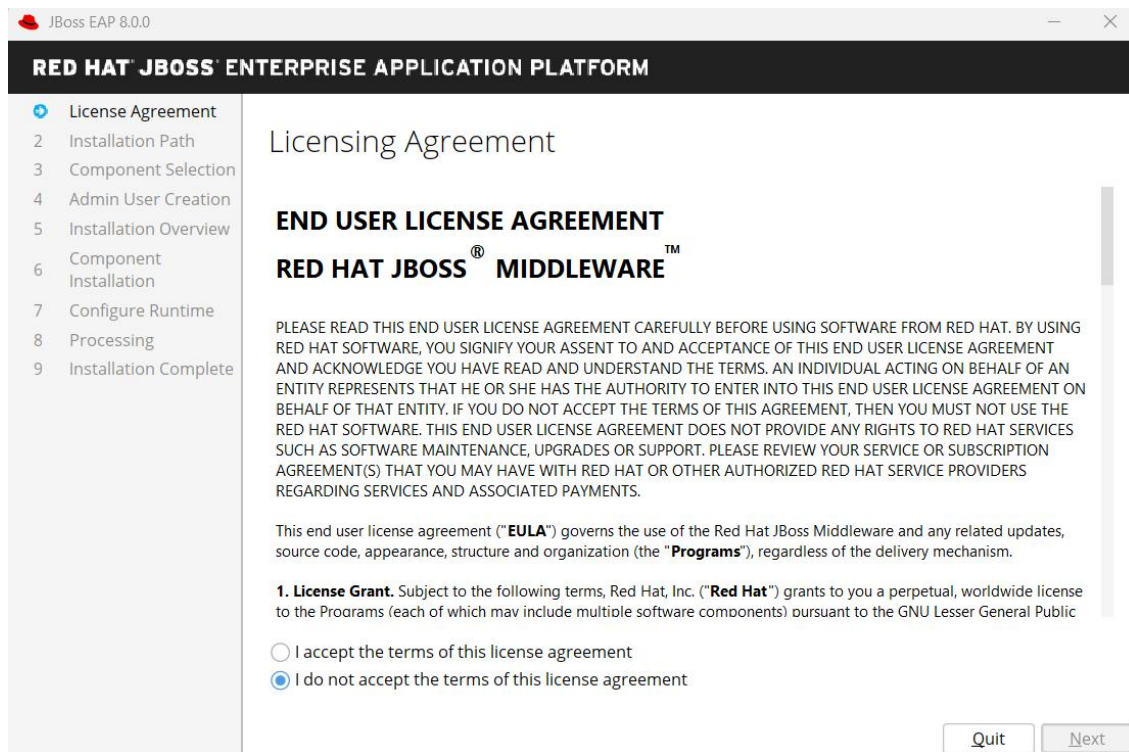
- To install EAP 8 on a RHEL machine, using the RPM method, run the following command in a terminal, as root or using sudo:

```
# yum groupinstall jboss-eap8
```

- To start the EAP installer, enter the command:

```
$ java -jar jboss-eap-8.0.0-installer.jar
```

The following screenshot shows the EAP installer in GUI mode:

Figure 1.5:
EAP 8 installer in GUI mode

If GUI access is not available on a machine and can only be accessed through a

terminal, the EAP Installer can be run from a console. Both the graphical installer and the text console- based installer follow the same set of steps. To run the installer in console mode, run:

```
# java -jar jboss-eap-8.0.0-installer.jar -console
Select language :
0: eng
1: chn
2: deu
3: fra
4: jpn
5: por
6: spa
Please  choose [0] :
END USER LICENSE
AGREEMENT
JBOSS(r) ENTERPRISE MIDDLEWARE(tm)
...
press 1 to continue, 2 to quit, 3 to redisplay

1
Select the installation path: [/opt/jboss-eap-8.0]
```

Regardless of whether you use the GUI or the console, the EAP installer creates an XML document in which all the settings are saved. This XML document can be saved to repeat an installation without any human interaction:

```
$ java -jar jboss-eap-8.0.0-installer.jar myinstall.xml
```

You would replace myinstall.xml with the name of the corresponding autoinstall XML file. This command does not require human intervention, so a custom EAP8 instance can be installed using scripts.

Uninstalling EAP 8

The process for uninstalling EAP 8 depends on the installation method used:

- If EAP 8 was installed using the zip file, simply delete the top level folder where it was unzipped.

```
# rm -rf jboss-eap-8.0
```

- To uninstall EAP 8 on a RHEL machine, which was installed using the RPM method, run the following command in a terminal, as root or using sudo:

```
# yum groupremove jboss-eap8
```

- If EAP 8 was installed using the EAP 8 installer or console in GUI mode, navigate to $JBOSS_HOME/uninstaller and run the uninstaller:

  # java -jar uninstaller.jar

Start and stop EAP

Unix shell scripts and Windows batch scripts are provided to start EAP 8 as a standalone server or in domain mode. They are standalone.sh and domain.sh and are located in the bin folder in the EAP installation directory.

The EAP installation directory will be referred to throughout this book as JBOSS_HOME. This is also the name of the OS environment variable used by the EAP startup scripts and other utility scripts to find its installation directory, as well as configuration files, registry files, and other necessary files. If this variable is not defined, it is assumed to indicate the main folder of the script.

To start EAP with factory settings, run the specific boot script for the desired operating mode:

- For a standalone server:

  $ ${JBOSS_HOME}/bin/standalone.sh

- For a managed domain host controller (which will be the master):

  $ ${JBOSS_HOME}/bin/domain.sh

Most of the time, shell commands can refer to the environment variable simply as $JBOSS_HOME, instead of ${JBOSS_HOME}, as in the command examples above.
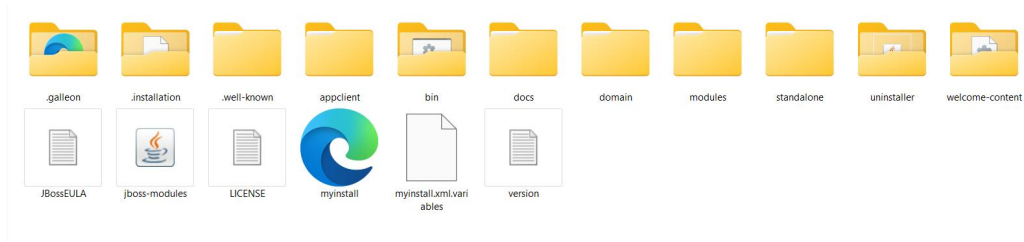
There are three options to stop EAP:

- Kill the process of the server instance (or host controller) using Ctrl+C

- Terminate the process of the server instance (or host controller) using the command kill (Unix and OS X) or a GUI task manager.

- Use the administration CLI (shown later in this student guide).

Test if EAP works

After EAP starts, it scans HTTP connections on port 8080. When using a web browser to visit the URL http://localhost:8080, a welcome page should appear.

EAP installation folders

A fresh EAP installation has the following folders in JBOSS_HOME:

.galleon .installation .well-known appclient bin docs domain modules standalone uninstaller welcome-content

JBossEULA jboss-modules LICENSE myinstall myinstall.xml.vari ables version

Figure
1.6: EAP 8 installation folders

The main folders are described by the following lists:

• **bin** – Contains scripts used to start EAP on a managed domain and a stand-alone server. Launch the management CLI and other developer utility functions.

• **domain** – Contains configuration files and data for running EAP in a domain. managed.

• **standalone** – contains the configuration and data files to run the EAP server independent.

• **modules** – Contains most of the code to implement JEE services in EAP.

The contents of these and other EAP installation folders will be examined in the remainder of this book. For now, note that domain and standalone have similar structures, including a configuration folder that contains the XML configuration files for each operating mode, and a logs folder that can be useful for troubleshooting startup failures.

Production Environment Best Practices

A developer can install EAP 8 in their personal home folder and run a standalone server instance or host controller under their own OS user account. However, for production environments, there are a number of best practices to follow with any server-based software.

Check with your senior system administrator for the specific set of best practices for your organization. They probably include at least the following for Linux OSes:

• Install in a folder reserved for third-party applications, such as /opt.

- The owner of this EAP installation folder and its files must be in a system account, which is a user that is NOT allowed to log in either to the console of the server machine or to remote sessions.

  Starting EAP manually requires the use of sudo or su to run the server startup script, using the system account created exclusively for EAP.

- Standalone EAP server instances and host controllers should be started as system services, in the background, not tied to a user session. For RHEL 8, this involves running as a systemctl service unit or a System V init script. Follow these steps:

ÿ The EAP installation folder JBOSS_HOME/bin/init.d contains an init script of the Test System V, called jboss-eap-rhel.sh, which was written for RHEL8, but can be customized for other Unix OSes.

ÿ The same folder also contains a configuration file, named jboss eap.conf, which defines specific parameters for a particular installation. For example, the correct value is defined for JBOSS_HOME.

ÿ Copy the init script to /etc/init.d, and the script's configuration file to /etc/ default.

ÿ Reload the configuration in systemctl memory:

systemctl reload-daemon

ÿ Use the systemctl command to start EAP. For example:

systemctl start jboss-eap-rhel.sh

ÿ The systemctl command can also be used for EAP. For example:

systemctl stop jboss-eap-rhel.sh

ÿ Finally, systemctl can be used to start EAP automatically during boot. start.

systemctl enable jboss-eap-rhel.sh

Using systemctl and init scripts is a common Linux system administration task. For more information, check the RHEL 8 product documentation, or ask for help from an experienced Unix system administrator.

The most common best practices described are already implemented by the RPM installation method, but must be manually implemented for the ZIP file and JAR installer method.

EAP 8 also includes batch scripts and executable files for installation, and runs as a Windows service, although this information will not be covered in this student guide.