Guided Exercise: Installing JBoss EAP

In this lab assignment, you will install EAP using the EAP installation file (JAR file).

Files	**/home/student/installs**
app url	**http://localhost:8080**
Result	**You should be able to install an instance of EAP 8.**

1. **EAP can be installed in many ways (yum install, JAR installer, zip file). However, for the purposes of this lab work, the JAR-based GUI installer is the simplest. The procedure is the same on different operating systems (Windows, Linux, Mac OS X, etc.).**

   Start the EAP installer in GUI mode:

   1.1. **Open a terminal window and change to the folder /home/student/installs.**

   Open a workstation terminal window (Applications > Utilities > Terminal) and run the following command:

   $ **cd /home/student/installs**

   1.2. **The EAP installer is a GUI based application that will unzip the EAP server files on your workstation and will help you set up an admin user to manage the EAP. The installer must be run with root privileges, as you will be installing EAP to the /opt folder on workstation.**

   Enter the following command:

   $ **sudo java -jar \ jboss-eap-8.0.0 installer.jar**

   1.3. **The EAP installer supports a number of languages. For this course, select the language as English (default) and click OK. Also select the I accept the terms of the license agreement check box.**

   1.4. **Read everything briefly, accept the end user license agreement (EULA) and click Next.**

   1.5. **For the installation path, use:**

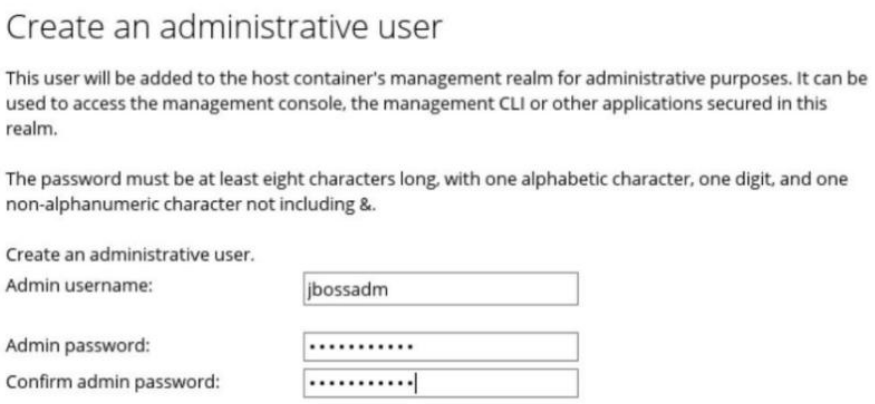
   /opt/jboss-eap-8.0

2. Complete the installer in GUI mode

2.1. The Component Selection screen shows which packages (server components) will be installed. The AppClient and Docs packages are optional and can be deselected. AppClient is a set of files used to start EAP programmatically. The Docs package contains some configuration file templates for your use. Click the Next button to continue without changing the defaults.

2.2. You must create an administrative user to access the administration console EAP and manage the EAP server after installation.

Use jbossadm for the administrator username and JBoss@RedHat123 for the user password.

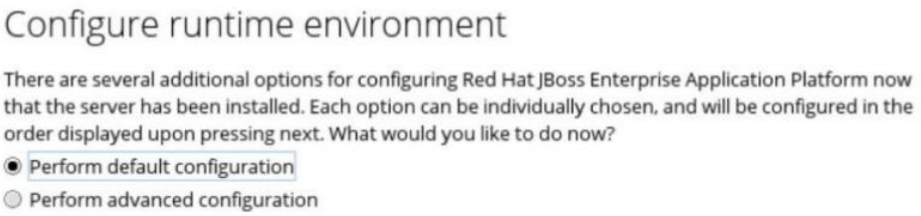


2.3. Review the information entered so far and click the Next button to continue.

2.4. The EAP installer will begin by installing the selected components. After the installation is complete, you should see the following screen:

Click the Next button to continue.

2.5. You can customize the EAP installation and select the subsystems you want customize on this screen. For the purposes of this lab work, you should choose the default option. Select Make default settings when prompted to configure the runtime environment and click the Next button.



2.6. **Now, some post-installation tasks will be executed. When they finish, review the information and click the Next button.**

2.7. In the final step of the wizard, click the Generate an installation script and properties file button. Name the file myinstall.xml and save it in the /opt/jboss-eap-8.0 folder (default).

An administrator can use this myinstall.xml file to automatically perform an EAP installation using the selected options without rerunning the installer.

2.8. Click the Finish button to close the installer.

2.9. Verify that you now have a folder named jboss-eap-8.0 in your /opt folder. That folder will now be named JBOSS_HOME.

2.10. You must set an environment variable called JBOSS_HOME, which indicates the EAP installation directory. It will be used by different scripts to locate where EAP is installed.

Similarly, change the PATH variable to run EAP scripts in the JBOSS_HOME/bin folder from any directory. To set these variables, open /home/student/.bashrc with your preferred text editor, and add the following lines to the end of the file:

```
JBOSS_HOME=/opt/jboss-eap-8.0
PATH=$PATH:$JBOSS_HOME/bin
export JBOSS_HOME PATH
```

Log out and log in as student to make these changes visible to the student user.

2.11. You must create a user named jboss to start and run EAP. The -r flag will be used to create a system user. Run the following command:

$ **sudo useradd -r jboss**

To check if the user is a system account, run the following command:

$ **id jboss**

The jboss user UID must be a number less than 1000.

2.12. **This user must be the owner of the JBOSS_HOME folder.**

$ **sudo chown -R jboss:jboss /opt/jboss-eap-8.0**

2.13. **Open the JBOSS_HOME/myinstall.xml file as root using sudo. This is the file created when you click the Generate installation script and properties file button in the last step of the installation wizard. You can use this file to install another instance of EAP with the same settings.**

Open the /opt/jboss-eap-8.0/myinstall.xml file and check the value of the *installpath attribute.*

Notice the two lines:

```
<entry key="adminUser" value="jbossadm">
<entry autoPrompt="true" key="adminPassword">
```

Instead of hardcoding the administrator password directly into the file, it is set in the myinstall.xml.variables file.

2.14. **Open the /opt/jboss-eap-8.0/myinstall.xml.variables file as root using sudo and add *JBoss@RedHat123* as the value for the *adminPassword property.***

2.15 **You should see a folder in JBOSS_HOME named uninstaller, which contains a single executable JAR file named uninstaller.jar.**

3.Start the standalone EAP server

3.1. **On the workstation virtual machine, enter the following command to start a standalone EAP server as the jboss user.**

A RHEL:

$ **sudo -u jboss /opt/jboss-eap-8.0/bin/standalone.sh**

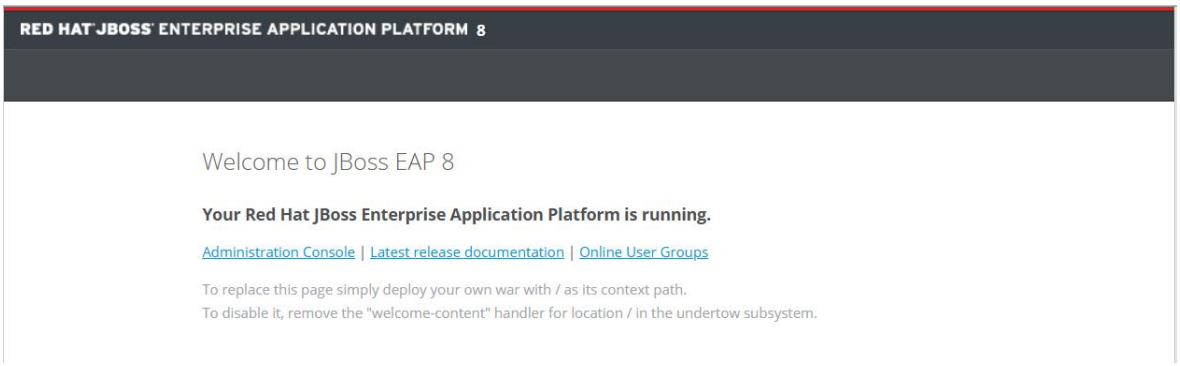
The following result is expected:

```
10:01:17,873 INFO [org.jboss.as] (Controller Boot Thread) WFLYSRV0025: JBoss
EAP 8.0.0.GA (WildFly Core 2.1.2.Final-redhat-1) started in 3262ms - Started 261
of 509 services (332 services are lazy, passive or on-demand)
```

3.2. **EAP 8 starts immediately. It will start running in less than ten seconds.**

4. **Check that EAP is running:**

   4.1. **Point your web browser to http://localhost:8080. You should see the following Page of welcoming.**



use

The page you see is the index.html page found in JBOSS_HOME/ welcome-content.

5. **Before moving on to the next lab, turn off the EAP 8 server by pressing Ctrl+C in the terminal window where you started EAP 8.**

6. **(Optional) Configure EAP to start as a service.**

In a production environment, EAP is not typically started from a command line, as it requires manual intervention. To avoid the need to run a bash script command, EAP can be installed as a service to start EAP at OS boot time. In the following steps, a group of commands will be executed to achieve this goal.

6.1. Inspect the script responsible for starting and stopping EAP.

The file is provided by EAP in the JBOSS_HOME/bin/init.d directory and will be responsible for checking if EAP is running, starting EAP, and loading a configuration file to customize the EAP runtime environment. Open the /opt/jboss- eap-8.0/bin/init.d/jboss-eap-rhel.sh file with your favorite text editor as the user jboss, using sudo -u jboss <textEditor>.

The script starts EAP as a background process; it does this by creating a process ID (PID) file, starting it as a specific user, generating a log file in a defined location, and running the EAP server standalone or in a managed domain. To allow for customization, a configuration file (line 21) is loaded with environment variables to identify the directories and configuration files used by an EAP instance.

6.2. Review the init script configuration file available at /opt/jboss eap-8.0/bin/init.d/jboss-eap.conf with your favorite text editor as the user jboss, using sudo -u jboss <textEditor>, to evaluate its contents.

There are environment variables such as JBOSS_HOME (indicating the directory in which EAP is installed), JAVA_HOME (the directory in which Java is installed), JBOSS_USER (responsible for the login to run the EAP process), and JBOSS_MODE (the approach used to start EAP based on a stand-alone server or a managed domain). Fortunately, environment variables are clearly documented by comments in the file.

Remove # in front of each variable and update the following environment variable:

- *JAVA_HOME: /* etc/alternatives/java_sdk (the directory in which to install Java)
- JBOSS_HOME:/opt/jboss-eap-8.0(the directory where EAP is installed)
- *JBOSS_USER:* jboss (the owner of the EAP process)
- JBOSS_MODE:standalone (the mode to start EAP, standalone [standalone] or domain [domain])
- JBOSS_CONFIG:standalone.xml (the configuration file to be used by the process)
- *JBOSS_CONSOLE_LOG: /* var/log/jboss-eap/console.log (the file where all logs will be stored)

6.3. Copy the jboss-eap.conf file to the /etc/default directory by running the following command:

```
$ sudo cp /opt/jboss-eap-8.0/bin/init.d/jboss-eap.conf  /etc/default/jboss-eap.conf
```

6.4. To make the init script visible to systemctl, the script must be stored in /etc/init.d with execute permission. Copy the file to the /etc/init.d directory and change its permission to make it executable using the following commands:

```
$ sudo cp /opt/jboss-eap-8.0/bin/init.d/jboss-eap-rhel.sh  /etc/init.d/jboss-eap
$ sudo chmod 755 /etc/init.d/jboss-eap
```

6.5. To make the script on the host part of the current systemctl configuration, run the following command:

```
$ sudo systemctl daemon-reload
```

6.6. To enable EAP startup during the boot process, run the following command:

```
$ sudo systemctl enable jboss-eap
```

6.7. To check if the installation was successful, run:

```
$ sudo systemctl start jboss-eap
```

or reboot the system.

6.8. Access the EAP instance by opening a web browser and going to http://localhost:8080.

6.9. To ensure that this service does not conflict with the following labs, disable and stop the service by running:

```
$ sudo systemctl disable jboss-eap
$ sudo systemctl stop jboss-eap
```

This concludes this guided exercise.