

Guided Exercise: JBoss EAP Management Console

In this lab assignment, you will configure and manage the installed EAP 8 server.

Files	ND
app url	http://localhost:9990

Result

You should be able to log in as an administrator user and explore the different functions of the administration console.

1. The EAP 8 server that you installed in the previous lab should be started and running. Otherwise, start the EAP 8 server as the jboss user:

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

2. Add a new admin user:

- 2.1. In a new terminal window, run the add-user.sh script as the user jboss.

```
$ sudo -u jboss /opt/jboss-eap-8.0/bin/add-user.sh
```

- 2.2. Add a new user:

- User type: administration user (select option a)
- Username: admin
- Password: JBoss@RedHat123
- A list of groups the user belongs to: none (leave blank)
- Will this new user be used for one AS process to connect to another AS process? : No

use

After the username request, the following output is expected.

```
User 'admin' already exists and is disabled, would you like to... a) Update
the existing user password and roles b) Enable the existing user c) Type
a new username
```

Select option a.

23. Inspect the `mgmt-users.properties` file, which allows you to define users who need access to the EAP management console, either through the web interface or the CLI.

Using the text editor, open the `JBOSS_HOME/standalone/configuration/mgmt-users.properties` file.

- 2.4. Check that this file contains the admin user and that the user has a hashed password.
- 2.5. The same file is also available in the domain folder of the EAP 8 installation. It will be used by the managed domain to ensure the administrative console as well.

Using the text editor, open the `JBOSS_HOME/domain/configuration/mgmt-users.properties` file.

Check that the admin user also appears in this file. Notice that the same credentials were defined for the standalone mode and the managed domain.

- 2.6. Close the two `mgmt-users.properties` files.

use

You should also see the `jbossadm` user in these files. This was added during the Install EAP guided exercise.

3. Log in to the administration console:

- 3.1. In the web browser, go to `http://localhost:9990/`, which is the location of the management console. You will be prompted to sign in. Log in as the admin user you created in the previous step, with the password `JBoss@RedHat123`.

You should see the EAP 7 management console home page:

Red Hat JBoss Enterprise Application Platform
admin

Homepage
Deployments
Configuration
Runtime
Update Manager
Access Control

Red Hat JBoss Enterprise Application Platform
New to EAP8? Take a Tour

Deployments

Add and manage deployments

[Deploy an Application](#)
[Start](#)

Deploy an application to the server

1. Use the 'Add Deployment' wizard to deploy the application
2. Enable the deployment

Configuration

Configure subsystem settings

[Create a Data source](#)
[Start](#)

Define a data source to be used by deployed applications. The proper JDBC driver must be deployed and registered.

1. Select the Data sources subsystem
2. Add a Non-XA or XA data source
3. Use the 'Create Data source' wizard to configure the data source settings

Runtime

Monitor server status

[Monitor the Server](#)
[Start](#)

View runtime information such as server status, JVM status, and server log files.

1. Select the server
2. View log files or JVM usage

Update Manager

Update the existing installation and manage channels

[Update the installation](#)
[Start](#)

Update the existing installation

1. Retrieve the list of artifacts that will be updated.
2. Prepare a candidate server with the latest available patches.
3. Restart the base server to apply the updates prepared in the previous step.

4. The JVM (Java Virtual Machine) is responsible for managing the memory count used by the application server and deployed applications, as well as managing class loading. In this step, you will read the metrics obtained from the JVM, using the EAP management console.

View the JVM Status page of the EAP management console. Navigate to (Runtime > admin > statys) and click the View button to view the JVM details.

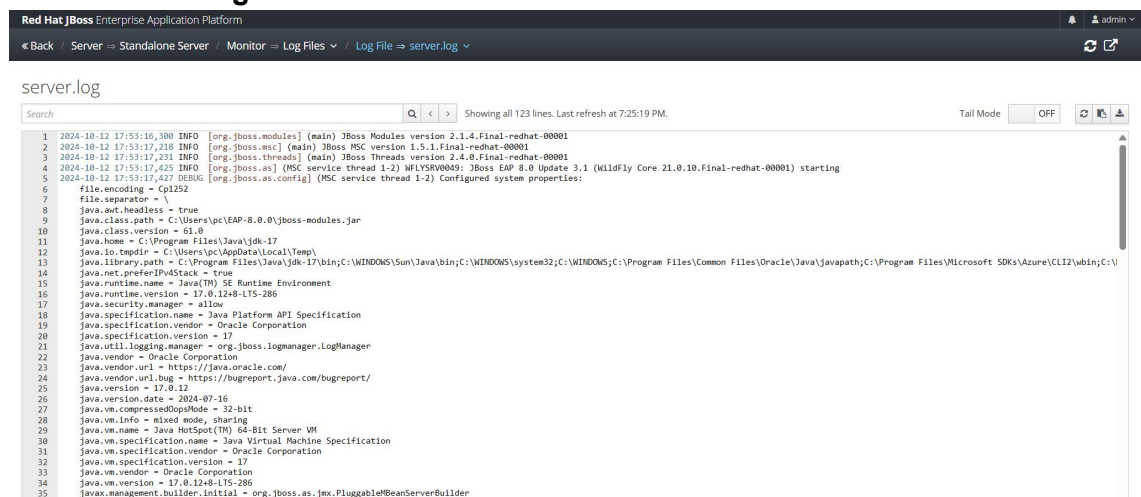


5. View the EAP server logs.

EAP server logs are stored on the local file system, but sometimes, due to file system access restrictions, the administrator may need to access the file system through the web console.

Click the blue <<Back link at the top left of the JVM Status page to go back, navigate to Runtime > Standalone Server > Log Files and click the View button to view the log viewer.

Select the server.log entry in the table that appears and click the View button to view the server logs.



The screenshot shows the Red Hat JBoss Enterprise Application Platform web console. The breadcrumb navigation at the top reads: << Back / Server > Standalone Server / Monitor > Log Files > / Log File => server.log. Below the navigation, the title 'server.log' is displayed. A search bar and a status indicator 'Showing all 123 lines. Last refresh at 7:25:19 PM.' are present. The log content is displayed in a table with line numbers 1 through 35. The log entries show the JBoss Modules version 2.1.4.Final-redhat-00001, JBoss MSC version 1.5.1.Final-redhat-00001, JBoss Threads version 2.4.0.Final-redhat-00001, and the WildFly Core 21.0.10.Final-redhat-00001 starting. The log also shows the configured system properties, including the file.separator, java.awt.headless, java.class.path, java.class.version, java.home, java.io.tmpdir, java.library.path, java.net.preferIPv4Stack, java.runtime.name, java.runtime.version, java.security.manager, java.specification.name, java.specification.vendor, java.specification.version, java.util.logging.manager, java.vendor, java.vendor.url, java.vendor.url.bug, java.version, java.version.date, java.vm.compressedOopsMode, java.vm.info, java.vm.name, java.vm.specification.name, java.vm.specification.vendor, java.vm.specification.version, java.vm.vendor, java.vm.version, and javax.management.builder.initial.

```
1 2024-10-12 17:53:16,380 INFO [org.jboss.modules] (main) JBoss Modules version 2.1.4.Final-redhat-00001
2 2024-10-12 17:53:17,218 INFO [org.jboss.msc] (main) JBoss MSC version 1.5.1.Final-redhat-00001
3 2024-10-12 17:53:17,231 INFO [org.jboss.threads] (main) JBoss Threads version 2.4.0.Final-redhat-00001
4 2024-10-12 17:53:17,425 INFO [org.jboss.as] (MSC service thread 1-2) WFLYSRV0049: JBoss EAP 8.0 Update 1.1 (WildFly Core 21.0.10.Final-redhat-00001) starting
5 2024-10-12 17:53:17,427 DEBUG [org.jboss.as.config] (MSC service thread 1-2) Configured system properties:
6     file.encoding = Cp1252
7     file.separator = \
8     java.awt.headless = true
9     java.class.path = C:\Users\pc\AppData\Local\Temp\
10    java.class.version = 61.0
11    java.home = C:\Program Files\Java\jdk-17
12    java.io.tmpdir = C:\Users\pc\AppData\Local\Temp\
13    java.library.path = C:\Program Files\Java\jdk-17\bin;C:\WINDOWS\Sun\Java\bin;C:\WINDOWS\system32;C:\WINDOWS;C:\Program Files\Common Files\Oracle\Java\javapath;C:\Program Files\Microsoft SDKs\Azure\CLID2\bin;C:\V
14    java.net.preferIPv4Stack = true
15    java.runtime.name = Java(TM) SE Runtime Environment
16    java.runtime.version = 17.0.12+8-LTS-286
17    java.security.manager = allow
18    java.specification.name = Java Platform API Specification
19    java.specification.vendor = Oracle Corporation
20    java.specification.version = 17
21    java.util.logging.manager = org.jboss.logmanager.LogManager
22    java.vendor = Oracle Corporation
23    java.vendor.url = https://java.oracle.com/
24    java.vendor.url.bug = https://bugreport.java.com/bugreport/
25    java.version = 17.0.12
26    java.version.date = 2024-07-16
27    java.vm.compressedOopsMode = 32-bit
28    java.vm.info = mixed mode, sharing
29    java.vm.name = Java HotSpot(TM) 64-Bit Server VM
30    java.vm.specification.name = Java Virtual Machine Specification
31    java.vm.specification.vendor = Oracle Corporation
32    java.vm.specification.version = 17
33    java.vm.vendor = Oracle Corporation
34    java.vm.version = 17.0.12+8-LTS-286
35    javax.management.builder.initial = org.jboss.as.jmx.PluggableBeanServerBuilder
```

6. Change the deployment scanner interval.

The EAP Deployment Scanner is a subsystem that periodically scans and detects new application deployments (WAR, EAR, JAR files, etc.) to the application server. In this step, the time interval that EAP will scan for new files in the deployments directory will be updated.

6.1. Click the <<Back link at the top left of the View Logs page to go back, navigate to Configuration > Subsystems > Deployment Scanners and click the View button to view the Deployment Scanners configuration page.

Click the blue Edit link in the Attributes table and change the Scan Interval value from the default of 5000 (5 seconds) to 8000 (8 seconds).

Attributes [Need Help?](#)

☒ Edit

Auto deploy exploded *: ☐


Auto deploy xml *: ☒

Auto deploy zipped *: ☒

Deployment timeout:

Path *:

Relative to:

Runtime failure causes rollback *: 

Scan enabled *: ☒

Scan interval:

6.2. Click the Save button when finished.

7. Verify the configuration changes:

7.1. Open the JBOSS_HOME/standalone/configuration/standalone.xml file in a text editor.

7.2. Verify that the deployment-scanner subsystem reflects the changes you made through the administrative console.

```
....
<subsystem xmlns="urn:jboss:domain:deployment-scanner:2.0">
  <deployment-scanner path="deployments" relative-
to="jboss.server.base.dir" scan-interval="8000" runtime-failure-
causes
rollback="${jboss.deployment.scanner.rollback.on.failure:false}"/>
</subsystem>
....
```

7.3. Run the JBoss EAP CLI tool and verify that the configuration changes are visible.

The CLI tool will be introduced later, but it uses a bash script-like approach to customizing the EAP configuration files. For a while, to get information about the deployment scanner subsystem, open a terminal window, run the `jboss-cli.sh` script, and connect to the running EAP instance using the following commands:

```

$ sudo -u jboss /opt/jboss-eap-8.0/bin/jboss-cli.sh --connect
[standalone@localhost:9990 /]
/subsystem=deployment-scanner/
scanner=default:read-resource {

    "outcome" => "success", "result"
=> { "auto-deploy-
    exploded" => false, "auto-
    deploy-xml" => true, "auto-
    deploy-zipped" => true,
    "deployment-timeout" => 600,
    "path" => "deployments",
    "relative-to" =>
    "jboss.server.base.dir", "scan-
    enabled" => true, "scan-interval" => 8000

    }
}

```

7.4. Exit the CLI by running the exit command:

```
[standalone@localhost:9990 /] exit
```

8. Turn off EAP.

- 8.1. Before moving on to the next lab, if EAP is running, shut down the EAP 8 server by pressing Ctrl+C in the terminal window in which you started EAP 8.

This concludes the guided exercise.

Lab Work: Red Hat JBoss Enterprise Application Platform: Architecture and Features

In this lab, you will uninstall the existing EAP instance, reinstall it using the automated installation method (myinstall.xml file), and configure the server.

Files	/home/student/installs/jboss-eap-8.0.0-installer.jar
-------	--

	/opt/ myinstall.xml
--	---------------------

	opt/ myinstall.xml.variables
--	------------------------------

EAP 8 Management Console URL	http://localhost:9990
------------------------------------	-----------------------

Result

You should be able to install an instance of EAP 8.

1. In this step, we will uninstall EAP 8 installed in a previous lab job using the uninstaller. EAP 8 will then be reinstalled using an automated approach, using a response file.

1.1. Uninstall the existing instance of EAP 8 in /opt/jboss-eap-8.0 using the EAP 8 uninstaller as root. (Tip: sudo).

Check the Force remove /opt/jboss-eap-8.0 check box and click the Uninstall button to remove the EAP installation.

1.2. Verify that the /opt/jboss-eap-8.0 folder no longer exists.

2. An administrator installed EAP on an existing host and you want to replicate the same installation process on workstation. This step will provide the answer file generated during the installation process to install EAP in a repeatable manner.

Install EAP 8 using an automated installer with the following features:

- Administrator username: jbossadm
- Administrator password: JBoss@RedHat123
- Installation path (JBOSS_HOME): /opt/jboss-eap-8.0

The variable file (myinstall.xml.variables) and response file (myinstall.xml) are available at /home/student/labs/features eap/. The EAP 8 installer is located at /home/student/installs. Check if the configuration of these files follows the expected characteristics:

3. Verify that the /opt/jboss-eap-8.0 folder has been created and verify that the startup and other scripts (standalone.sh, domain.sh, add-user.sh etc...) are available in the JBOSS_HOME/bin folder.
4. The recommended approach is to run EAP as a non-root user to prevent security breaches that allow malicious users to access the host with administrative permissions. A user named 'jboss' has already been created for you.

Change the owner of the /opt/jboss-eap-8.0 folder and all files within it to user 'jboss' and group 'jboss' via the chown -R command.

Verify the owner change by running the following command:

```
$ ls -la /opt/jboss-eap-8.0
```

5. Start a standalone EAP server with the jboss user. In a new terminal window, log in as the jboss user to start the EAP 8 instance. (Tip: use the sudo -u jboss command.)
6. To verify that the administrator credentials, used for To install EAP, log in to the EAP 8 administration console using the credentials for the jbossadm user (password is JBoss@RedHat123).
7. Shut down the EAP 8 server by pressing Ctrl+C in the terminal window you started in the EAP 8.

Solution

In this lab, you will uninstall the existing EAP instance, reinstall it using the automated installation method (myinstall.xml file), and configure the server.

Files		/home/student/installs/jboss-eap-8.0.0-installer.jar
		/home/student/labs/features-eap/ myinstall.xml
		/home/student/labs/features-eap/ myinstall.xml.variables
EAP Management Console URL	8	http://localhost:9990

Result

You should be able to install an instance of EAP 8.

1. In this step, we will uninstall EAP 8 installed in a previous lab job using the uninstaller. EAP 8 will then be reinstalled using an automated approach, using a response file.

use

The qualifying script can be used as a guideline to test progress after running step 1.1, due to the limitation of the lab environment.

- 1.1. Uninstall the existing instance of EAP 8 in /opt/jboss-eap-8.0 using the EAP 8 uninstaller as root. (Tip: sudo).

Open a terminal window from the workstation virtual machine (Applications > Utilities > Terminal) and run the following commands:

```
$ sudo java -jar /opt/jboss-eap 8.0/uninstaller/uninstaller.jar
```

Check the Force remove /opt/jboss-eap-8.0 check box and click the Uninstall button to remove the EAP installation.

- 1.2. Verify that the /opt/jboss-eap-8.0 folder no longer exists.

```
$ ls -la /opt
```

2. An administrator installed EAP on an existing host and you want to replicate the same installation process on workstation. This step will provide the answer file generated during the installation process to install EAP in a repeatable manner.

Install EAP 8 using an automated installer with the following features:

- Administrator username: jbossadm
- Administrator password: JBoss@RedHat123
- Installation path (JBOSS_HOME): /opt/jboss-eap-7.0

The variable file (myinstall.xml.variables) and response file (myinstall.xml) are available at /home/student/labs/features-eap/. The EAP 8 installer is located at /home/student/installs. Check if the configuration of these files follows the expected characteristics:

```
$ cd /home/student/installs/  
$ sudo java -jar jboss-eap-8.0.0-installer.jar ../labs/features-eap/myinstall.xml
```

3. Verify that the /opt/jboss-eap-8.0 folder has been created and verify that the startup and other scripts (standalone.sh, domain.sh, add-user.sh etc...) are available in the JBOSS_HOME/bin folder.

```
$ ls -la /opt/jboss-eap-8.0  
$ ls -la /opt/jboss-eap-8.0/bin
```

4. The recommended approach is to run EAP as a non-root user to prevent security breaches that allow malicious users to access the host with administrative permissions. A user named 'jboss' has already been created for you.

Change the owner of the /opt/jboss-eap-8.0 folder and all files within it to user 'jboss' and group 'jboss' via the chown -R command.

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

Verify the owner change by running the following command:

```
$ ls -la /opt/jboss-eap-8.0
```

5. Start a standalone EAP server with the jboss user. In a new terminal window, log in as the jboss user to start the EAP 8 instance. (Tip: use the sudo -u jboss command.)

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

6. To verify that the administrator credentials, used for
To install EAP, log in to the EAP 7 administration console using the
credentials for the jbossadm user (password is JBoss@RedHat123).

Open a browser and navigate to <http://localhost:9990>

7. Shut down the EAP 7 server by pressing Ctrl+C in the terminal window you started in
the EAP 7.
8. Open a new terminal window to verify the completion of this job lab by
running the following command:

```
$ lab features-eap grade
```

9. This concludes the lab work.