

DevOps Certification Training

Jenkins Assignment 1

- By Swapnil Jadhav

You are working for an MNC - Software Solutions company as a DevOps Engineer and Company would

want you to establish the CI/CD pipeline in their organization by automating various workflows. You are

requested to establish following task.

1. Setup a Jenkins server on AWS ubuntu machine.
2. Create a freestyle project.
3. Configure below git repository to code checkout.

GitHub: Repo URL

4. Compile the source code using Maven
5. Execute the Junit test cases using Maven
6. Package the application as war.
7. Install the tomcat9 server on AWS ubuntu machine.
8. Deploy the packaged application on Tomcat9.
9. Verify the application after successful deployment using browser.

Slave

i-00e786b0c7473157e

Running

t2.micro

☒

master

i-00e786b0c7473157e

Running

t2.micro

Instance: i-00e786b0c7473157e (master)

Details

Security

Networking

Storage

Status checks

Monitoring

Tags

▼ Instance summary

Info

Instance ID

i-00e786b0c7473157e (master)

IPv6 address

—

Public IPv4 address

43.206.122.111

open address

Instance state

Running

```
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ addressbook ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory /root/workspace/jenmavengit/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:compile (default-compile) @ addressbook ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 13 source files to /root/workspace/jenmavengit/target/classes
[INFO] /root/workspace/jenmavengit/src/main/java/com/edurekademo/tutorial/addressbook/AddressbookUI.java: Some input files use or override a deprecated API.
[INFO] /root/workspace/jenmavengit/src/main/java/com/edurekademo/tutorial/addressbook/AddressbookUI.java: Recompile with -Xlint:deprecation for details.
[INFO] /root/workspace/jenmavengit/src/main/java/com/edurekademo/tutorial/addressbook/backend/ContactService.java:
/root/workspace/jenmavengit/src/main/java/com/edurekademo/tutorial/addressbook/backend/ContactService.java uses unchecked or unsafe operations.
[INFO] /root/workspace/jenmavengit/src/main/java/com/edurekademo/tutorial/addressbook/backend/ContactService.java: Recompile with -Xlint:unchecked for details.
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ addressbook ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Copying 1 resource
[INFO]
[INFO] --- maven-compiler-plugin:3.8.1:testCompile (default-testCompile) @ addressbook ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 5 source files to /root/workspace/jenmavengit/target/test-classes
[INFO] /root/workspace/jenmavengit/src/test/java/com/edurekademo/utilities/TestGenericComparator.java:
/root/workspace/jenmavengit/src/test/java/com/edurekademo/utilities/TestGenericComparator.java uses or overrides a deprecated API.
[INFO] /root/workspace/jenmavengit/src/test/java/com/edurekademo/utilities/TestGenericComparator.java: Recompile with -Xlint:deprecation for details.
[INFO]
Running com.edurekademo.utilities.TestHexAsciiConversion
74657374696e67206173636920636f6e76657274696e6720696e746572068657061646563696d616c
testing ascii conversion into hexadecimal
Tests run: 4, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.032 sec - in com.edurekademo.utilities.TestHexAsciiConversion
Running com.edurekademo.utilities.TestGenericComparator
Tests run: 14, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.061 sec - in com.edurekademo.utilities.TestGenericComparator

Results :

Tests run: 23, Failures: 0, Errors: 0, Skipped: 0

[INFO]
[INFO] --- maven-war-plugin:3.3.1:war (default-war) @ addressbook ---
[INFO] Packaging webapp
[INFO] Assembling webapp [addressbook] in [/root/workspace/jenmavengit/target/addressbook]
[INFO] Processing war project
[INFO] Building war: /root/workspace/jenmavengit/target/addressbook.war
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 9.176 s
[INFO] Finished at: 2023-03-06T08:32:10Z
[INFO] -----
[DeployPublisher][INFO] Attempting to deploy 1 war file(s)
[DeployPublisher][INFO] Deploying /root/workspace/jenmavengit/target/addressbook.war to container Tomcat 9.x Remote with context addressbook.war
[/root/workspace/jenmavengit/target/addressbook.war] is not deployed. Doing a fresh deployment.
Deploying [/root/workspace/jenmavengit/target/addressbook.war]
Finished: SUCCESS
```

```
root@ip-172-31-6-206:/opt/tomcat# sudo systemctl status tomcat
● tomcat.service - Apache Tomcat Web Application Container
   Loaded: loaded (/etc/systemd/system/tomcat.service; enabled; vendor prese
   Active: active (running) since Mon 2023-03-06 07:17:20 UTC; 3min 21s ago
 Main PID: 17470 (java)
    Tasks: 29 (limit: 1143)
   Memory: 125.6M
      CPU: 3.848s
   CGroup: /system.slice/tomcat.service
           └─17470 /usr/lib/jvm/java-11-openjdk-amd64/bin/java -Djava.util.l

Mar 06 07:17:20 ip-172-31-6-206 systemd[1]: Starting Apache Tomcat Web Applica
Mar 06 07:17:20 ip-172-31-6-206 startup.sh[17463]: Tomcat started.
Mar 06 07:17:20 ip-172-31-6-206 systemd[1]: Started Apache Tomcat Web Applicat
lines 1-13/13 (END)
```

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Home Documentation Configuration Examples Wiki Mailing Lists Find Help

Apache Tomcat/9.0.73

If you're seeing this, you've successfully installed Tomcat. Congratulations!

Recommended Reading:

- [Security Considerations How-To](#)
- [Manager Application How-To](#)
- [Clustering/Session Replication How-To](#)

Developer Quick Start

- Tomcat Setup
- First Web Application
- Running & AAM
- JDBC Data Sources
- Examples
- Servlet Specifications
- Tomcat Versions

Managing Tomcat

For security, access to the manager webapp is restricted. Users are defined as:

- `$CATALINA_HOME/conf/tomcat-users.xml`
- In Tomcat 9.0 access to the manager application is split between different users. [Read more...](#)

[Release Notes](#)
[Changelog](#)
[Migration Guide](#)
[Security Notices](#)

Documentation

- [Tomcat 9.0 Documentation](#)
- [Tomcat 9.0 Configuration](#)
- [Tomcat Wiki](#)

Find additional important configuration information in:

- `$CATALINA_HOME/tomcat9.txt`

Developers may be interested in:

- Tomcat 9.0 Bug Database
- Tomcat 9.0 Javadoc
- Tomcat 9.0 Git Repository at GitHub

Getting Help

FAQ and Mailing Lists

The following mailing lists are available:

- tomcat-announce**
Important announcements, releases, security vulnerability notifications. User related.
- tomcat-users**
User support and discussion
- tomcat-dev**
User support and discussion for Apache Tomcat
- tomcat-dev**
Development of mailing list, including current messages

Server Status
 Manager App
 Host Manager

Tomcat Web Application Manager

Message: OK

Manager

[List Applications](#) [HTML Manager Help](#) [Manager Help](#) [Server Status](#)

| Path | Version | Display Name | Running | Sessions | Commands |
|---------------|----------------|---------------------------------|---------|----------|--|
| / | None specified | Welcome to Tomcat | true | 0 | Start Stop Reload Undeploy Expire sessions with idle 2:30 minutes |
| /docs | None specified | Tomcat Documentation | true | 0 | Start Stop Reload Undeploy Expire sessions with idle 2:30 minutes |
| /examples | None specified | Servlet and JSP Examples | true | 0 | Start Stop Reload Undeploy Expire sessions with idle 2:30 minutes |
| /host-manager | None specified | Tomcat Host Manager Application | true | 0 | Start Stop Reload Undeploy Expire sessions with idle 2:30 minutes |
| /manager | None specified | Tomcat Manager Application | true | 1 | Start Stop Reload Undeploy Expire sessions with idle 2:30 minutes |

Deploy

Deploy directory or WAR file located on server

Current Path:

Tomcat Web Application Manager

Message: OK

Manager

List Applications HTML Manager Help Manager Help Server Status

| Path | Version | Display Name | Running | Sessions | Commands |
|---------------|----------------|---------------------------------|---------|----------|---|
| / | None specified | Welcome to Tomcat | true | 0 | Start Stop Reload Undeploy Expires sessions with idle 2:30 minutes |
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| /examples | None specified | Servlet and JSP Examples | true | 0 | Start Stop Reload Undeploy Expires sessions with idle 2:30 minutes |
| /host-manager | None specified | Tomcat Host Manager Application | true | 0 | Start Stop Reload Undeploy Expires sessions with idle 2:30 minutes |
| /manager | None specified | Tomcat Manager Application | true | 1 | Start Stop Reload Undeploy Expires sessions with idle 2:30 minutes |

Deploy

Deploy directory or WAR file located on server

Current Path:

Deploy war/ear to a container

WAR/EAR files ?

/.war

Context path ?

addressbook.war

Containers

Tomcat 9.x Remote

Credentials

admin/*****

+ Add

Tomcat URL ?

http://35.77.103.144:8080/

| First Name | Last Name | Email |
|------------|-----------|---------------------|
| George | White | george@white.com |
| Daniel | Thompson | daniel@thompson.com |
| Timothy | Jones | timothy@jones.com |
| Peter | Wilson | peter@wilson.com |
| Dan | Robinson | dan@robinson.com |
| Dan | Davis | dan@davis.com |
| Olivia | Davis | olivia@davis.com |
| Ben | Smith | ben@smith.com |