

DEVOPS PROFESSIONAL CERTIFICATION PROGRAM

Lab – 8: Continuous Deployment – Tomcat

- Create Maven's Web Application Project
- Configure SCM, Build and Apache Tomcat

Prepared By:
avinash.patel@wipro.com



- Use maven project (Demo2) created (webapp type) in earlier Lab. Also, working directory initialize with git repository and commit

```
osgdev@DevOps0S-TR:~/ap/GettingStarted/mavenProcess/Demo2$ tree
.
├── pom.xml
├── src
│   └── main
│       ├── resources
│       └── webapp
│           ├── index.jsp
│           └── WEB-INF
│               └── web.xml
└──
```

```
3 directories, 3 files
osgdev@DevOps0S-TR:~/ap/GettingStarted/mavenProcess/Demo2$ git init
Initialized empty Git repository in /home/osgdev/ap/GettingStarted/mavenProcess/Demo2/.git/
osgdev@DevOps0S-TR:~/ap/GettingStarted/mavenProcess/Demo2$ git add .
osgdev@DevOps0S-TR:~/ap/GettingStarted/mavenProcess/Demo2$ git commit -m "Initial code"
[master (root-commit) 56971b3] Initial code
Committer: osgdev <osgdev@DevOps0S-TR.wipro.com>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

3 files changed, 33 insertions(+)
create mode 100644 pom.xml
create mode 100644 src/main/webapp/WEB-INF/web.xml
create mode 100644 src/main/webapp/index.jsp
osgdev@DevOps0S-TR:~/ap/GettingStarted/mavenProcess/Demo2$
```

- Create Jenkins Job – Maven Project

Enter an item name

8 Lab

* Required field

Freestyle project

This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

Maven project

Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.

Pipeline

Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Multi-configuration project

Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Folder

Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a parallel namespace, so you can have multiple things of the same name as long as they are in different folders.

OK

Cancel

- **Configure SCM & Build with maven goal “install”**

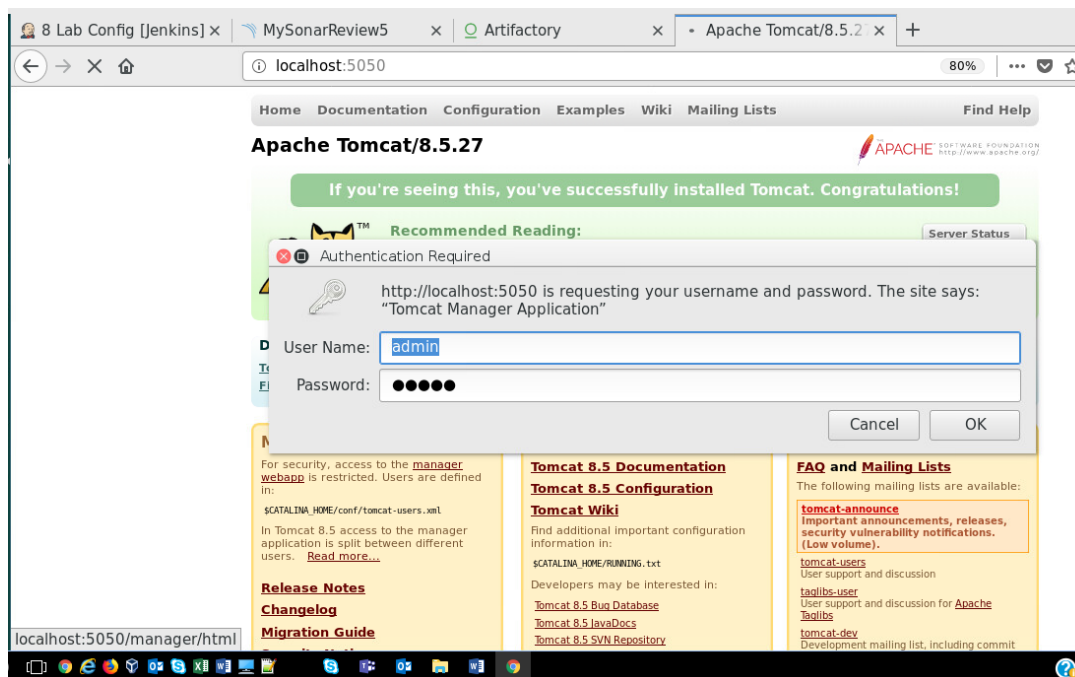
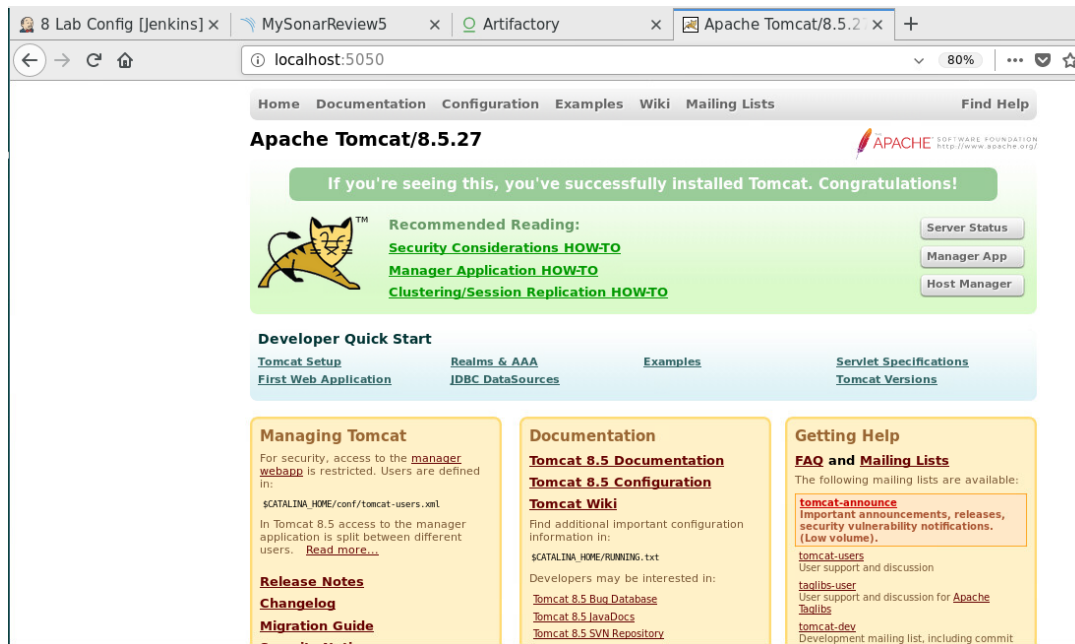
The screenshot shows the Jenkins configuration interface. Under the 'Source Code Management' tab, 'Git' is selected. The 'Repository URL' is set to '/home/osgdev/ia/GettingStarted/mavenProcess/Demo2'. The 'Credentials' dropdown is set to '- none -'. Under the 'Branches to build' section, the 'Branch Specifier' is set to '*/*master'. In the 'Build' section, the 'Root POM' is 'pom.xml' and the 'Goals and options' are 'install'.

- **Configure Apache Tomcat under “Add post build Action”**
– select Deploy war/ear to a container

The screenshot shows the Jenkins configuration interface with the 'Post Steps' tab selected. A dropdown menu is open, showing various post-build actions. The option 'Deploy war/ear to a container' is highlighted. Other options include 'Aggregate downstream test results', 'Archive the artifacts', 'Build other projects', 'Deploy artifacts to Artifactory', 'Deploy artifacts to Maven repository', 'Record fingerprints of files to track usage', 'Git Publisher', 'GitLab commit status publisher', 'SonarQube analysis with Maven', 'Accept GitLab merge request on success', 'Add note with build status on GitLab merge requests', and 'Add vote for build status on GitLab merge requests'.

The screenshot shows the Jenkins configuration interface for the 'Post-build Actions' section. The 'Deploy war/ear to a container' action is selected. The 'WAR/EAR files' field is set to '**/*.war'. The 'Context path' is set to 'Lab8'. Under the 'Containers' section, 'Tomcat 8.x' is selected. The 'Credentials' dropdown is set to 'admin/***** (tomcatcred)'. The 'Tomcat URL' is set to 'http://localhost:5050'. The 'Deploy on failure' checkbox is unchecked.

- Start Tomcat service at port# 5050 and login with credentials admin/admin



Tomcat Web Application Manager

Message: OK - Undeployed application at context path [/MyArtifactory]

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 ≥ 30 minutes
/docs	None specified	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/examples	None specified	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/manager	None specified	Tomcat Manager Application	true	1	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes

Deploy

- Select “Build Now” to start build process. Observe Jenkins Console output

```

[INFO] --- maven-war-plugin:2.2:war (default-war) @ Demo2 ---
[INFO] Packaging webapp
[INFO] Assembling webapp [Demo2] in [/var/lib/jenkins/workspace/8 Lab/target/Demo2]
[INFO] Processing war project
[INFO] Copying webapp resources [/var/lib/jenkins/workspace/8 Lab/src/main/webapp]
[INFO] Webapp assembled in [68 msecs]
[INFO] Building war: /var/lib/jenkins/workspace/8 Lab/target/Demo2.war
[INFO] WEB-INF/web.xml already added, skipping
[INFO]
[INFO] --- maven-install-plugin:2.4:install (default-install) @ Demo2 ---
[INFO] Installing /var/lib/jenkins/workspace/8 Lab/target/Demo2.war to /var/lib/jenkins/.m2/repository/com/devops/Demo2/1.0-SNAPSHOT/Demo2-1.0-SNAPSHOT.war
[INFO] Installing /var/lib/jenkins/workspace/8 Lab/pom.xml to /var/lib/jenkins/.m2/repository/com/devops/Demo2/1.0-SNAPSHOT/Demo2-1.0-SNAPSHOT.pom
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 11.087 s
[INFO] Finished at: 2018-07-17T12:29:40+05:30
[INFO] Final Memory: 15M/156M
[INFO]
[INFO]
Waiting for Jenkins to finish collecting data
[JENKINS] Archiving /var/lib/jenkins/workspace/8 Lab/pom.xml to com.devops/Demo2/1.0-SNAPSHOT/Demo2-1.0-SNAPSHOT.pom
[JENKINS] Archiving /var/lib/jenkins/workspace/8 Lab/target/Demo2.war to com.devops/Demo2/1.0-SNAPSHOT/Demo2-1.0-SNAPSHOT.war
channel stopped
Deploying /var/lib/jenkins/workspace/8 Lab/target/Demo2.war to container Tomcat 8.x Remote with context Lab8
[/var/lib/jenkins/workspace/8 Lab/target/Demo2.war] is not deployed. Doing a fresh deployment.
Deploying [/var/lib/jenkins/workspace/8 Lab/target/Demo2.war]
Finished: SUCCESS

```

Page generated: Jul 17, 2018 12:29:15 PM IST [REST API](#) [Jenkins ver. 2.89.4](#)

- 8 Lab #1 Console [Jerr x] MySonarReview5 x Artifactory x /manager x +

localhost:5050/manager/html/undeploy?path=/MyArtifactory&org.apache.catalina. 80%

Tomcat Web Application Manager

Message: FAIL - No context exists named [/47:MyArtifactory]

Manager

List Applications HTML Manager Help Manager Help Server Status

Applications

Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/lab8	None specified	Archetype Created Web Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/docs	None specified	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/examples	None specified	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes

