

DEVOPS PROFESSIONAL CERTIFICATION PROGRAM

Lab – 5: Maven Job - Git+Maven+Jenkins

- Create Maven Project in Jenkins and configure SCM + Maven
- Execute maven goals (tasks) and track build history

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- Using maven project (Demo1) created (quickstart type) in previous Lab

```
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess$ tree
.
├── Demo1
│   ├── pom.xml
│   └── src
│       ├── main
│       │   ├── java
│       │   │   ├── com
│       │   │   │   ├── devops
│       │   │   │   │   └── App.java
│       │   └── test
│       │       ├── java
│       │       │   ├── com
│       │       │   │   ├── devops
│       │       │   │   └── AppTest.java
└── 10 directories, 3 files
```

- Project working directory initialize with git repository and commit.

```
@DevOpsOS-TR: ~/ap/GettingStarted/mavenProcess/Demo1
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$ ls
pom.xml  src
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$ git init
Initialized empty Git repository in /home/osgdev/ap/GettingStarted/mavenProcess/Demo1/.git/
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$ git add .
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$ git commit -m "Initial Code Base"
[master (root-commit) 9c423bd] Initial Code Base
Committer: osgdev <osgdev@DevOpsOS-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, 69 insertions(+)
create mode 100644 pom.xml
create mode 100644 src/main/java/com/devops/App.java
create mode 100644 src/test/java/com/devops/AppTest.java
osgdev@DevOpsOS-TR:~/ap/GettingStarted/mavenProcess/Demo1$
```

- Create Jenkins Job – Maven Project

Enter an item name

5 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

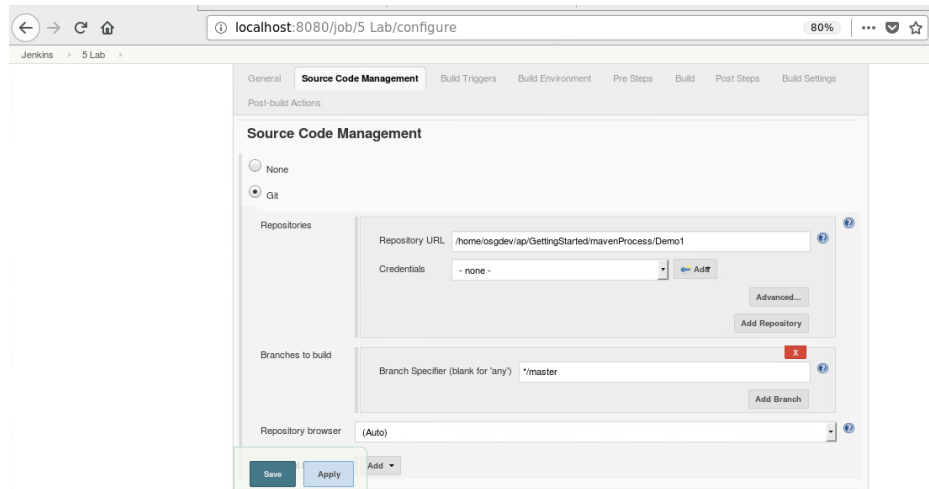
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Folder

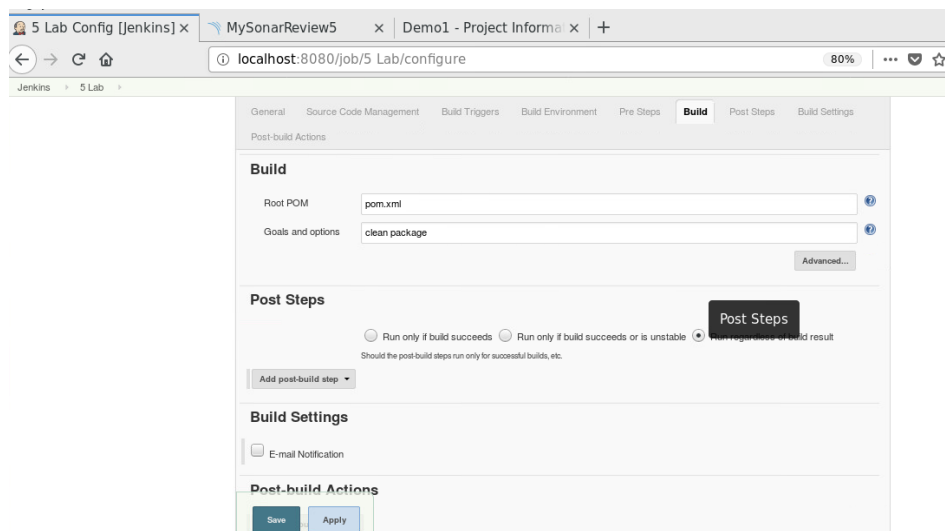
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

OK

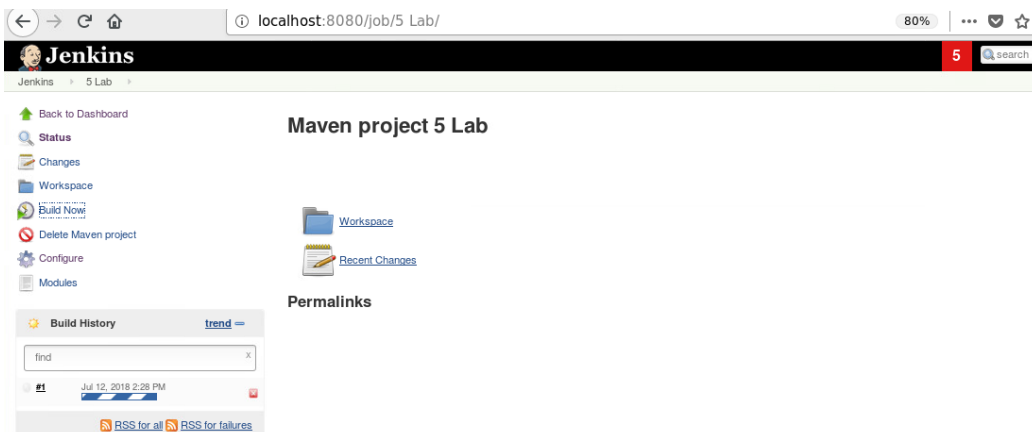
- **Configure SCM – Git with git local repository path**



- **Configure Build with maven valid goal(s)**



- **Save Configuration and Build by selecting “Build Now”**



- Observe and understand build process on Jenkins Console

The screenshot shows the Jenkins web interface with the 'Console Output' tab selected. The output text is as follows:

```

Started by user anonymous
Building in workspace /var/lib/jenkins/workspace/5 Lab
Cloning the remote Git repository
Cloning repository /home/osgdev/ap/GettingStarted/mavenProcess/Demo1
> git init /var/lib/jenkins/workspace/5 Lab # timeout=10
Fetching upstream changes from /home/osgdev/ap/GettingStarted/mavenProcess/Demo1
> git --version # timeout=10
> git fetch --tags --progress /home/osgdev/ap/GettingStarted/mavenProcess/Demo1 +refs/heads/*:refs/remotes/origin/*
> git config remote.origin.url /home/osgdev/ap/GettingStarted/mavenProcess/Demo1 # timeout=10
> git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
> git config remote.origin.url /home/osgdev/ap/GettingStarted/mavenProcess/Demo1 # timeout=10
Fetching upstream changes from /home/osgdev/ap/GettingStarted/mavenProcess/Demo1
> git fetch --tags --progress /home/osgdev/ap/GettingStarted/mavenProcess/Demo1 +refs/heads/*:refs/remotes/origin/*
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision 9c423bd6894acc0dea860abac8d2c4a236e1c63 (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f 9c423bd6894acc0dea860abac8d2c4a236e1c63
Commit message: "Initial Code Base"
First time build. Skipping changelog.
Parsing POMs
Discovered a new module com.devops:Demo1 Demo1
Modules changed, recalculating dependency graph
Established TCP socket on 44614
[5 Lab] $ /usr/java/jdk1.8.0_162/bin/java -cp /var/lib/jenkins/plugins/maven-plugin/WEB-INF/lib/maven35-agent-1.12-alpha-1.jar:/opt/apache-
  
```

The screenshot shows the continuation of the Jenkins build process. The output text is as follows:

```

2.4-jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-jar-plugin/2.4/maven-jar-plugin-2.4-jar
(34 kB at 65 kB/s)
[INFO]
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ Demo1 ---
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /var/lib/jenkins/workspace/5 Lab/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Demo1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /var/lib/jenkins/workspace/5 Lab/target/classes
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Demo1 ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /var/lib/jenkins/workspace/5 Lab/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Demo1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /var/lib/jenkins/workspace/5 Lab/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Demo1 ---
[INFO] Surefire report directory: /var/lib/jenkins/workspace/5 Lab/target/surefire-reports

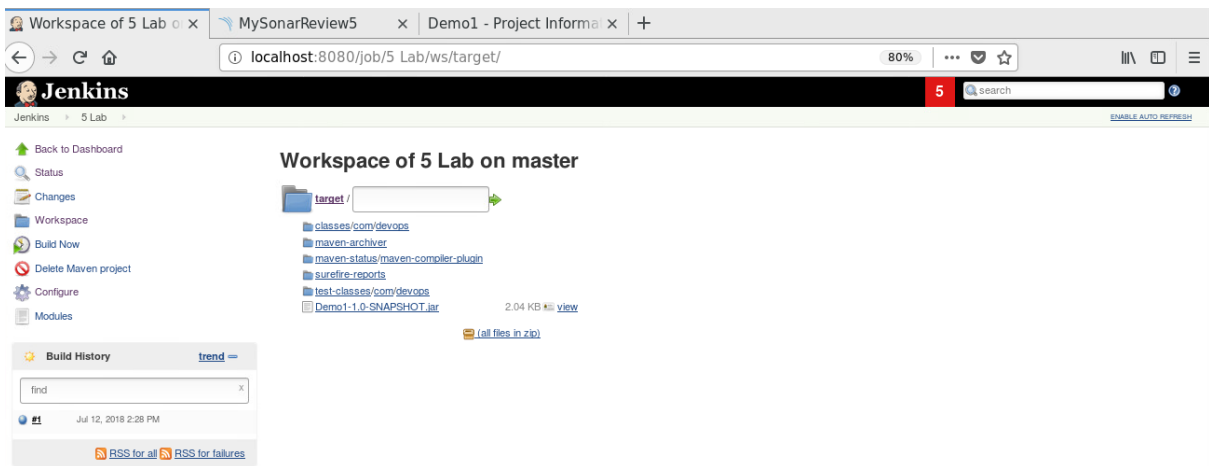
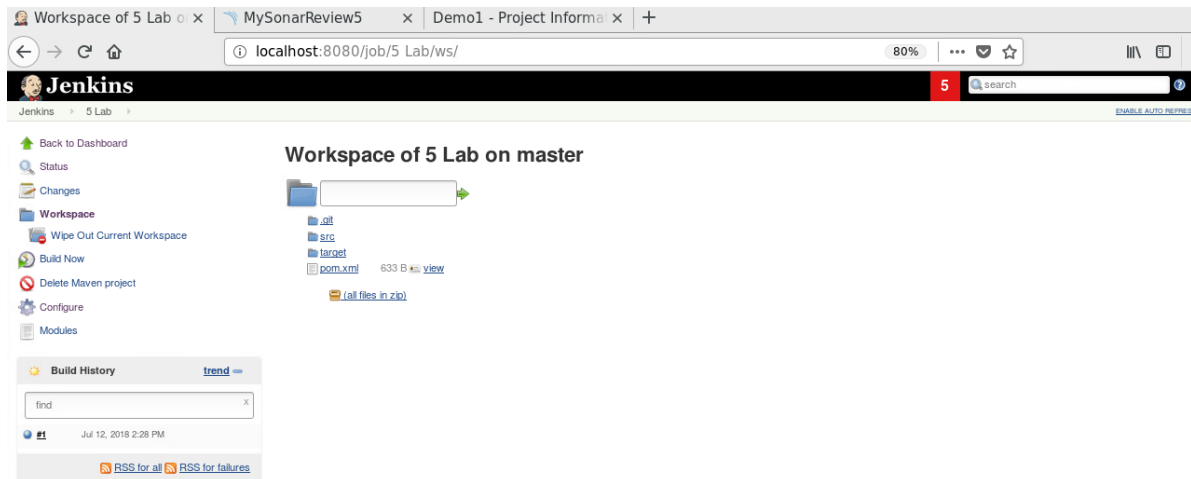
-----
T E S T S
-----
Running com.devops.AppTest
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.04 sec

Results :

Tests run: 1, Failures: 0, Errors: 0, Skipped: 0

[JENKINS] Recording test results
[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Demo1 ---
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/commons-lang/commons-lang/2.1/commons-lang-2.1.jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/commons-lang/commons-lang/2.1/commons-lang-2.1.jar (9.9 kB at 33 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/commons-lang/commons-lang/2.1/commons-lang-2.1.jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/commons-lang/commons-lang/2.1/commons-lang-2.1.jar (208 kB at 338
kB/s)
[INFO] Building jar: /var/lib/jenkins/workspace/5 Lab/target/Demo1-1.0-SNAPSHOT.jar
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 27.801 s
[INFO] Finished at: 2018-07-12T14:29:36+05:30
[INFO] Final Memory: 24M/176M
[INFO]
[JENKINS] Archiving /var/lib/jenkins/workspace/5 Lab/pom.xml to com.devops/Demo1/1.0-SNAPSHOT/Demo1-1.0-SNAPSHOT.pom
[JENKINS] Archiving /var/lib/jenkins/workspace/5 Lab/target/Demo1-1.0-SNAPSHOT.jar to com.devops/Demo1/1.0-SNAPSHOT/Demo1-1.0-SNAPSHOT.jar
channel stopped
Finished: SUCCESS
  
```

- Browse workspace and view folder/files



- Repeat build process by changing goal and observe the response with history.