

EXPERIMENT No: 7

Date of Performance	
Date of Submission	

AIM

To Setup and Run Selenium Tests in Jenkins Using Maven.

PROBLEM DEFINITION

Configure and execute Selenium tests in Jenkins using Maven.

THEORY

Jenkins is an open-source automation tool created with Java. It is extensively used as a Continuous Integration (CI) and Continuous Deployment (CD) tool.

Maven:

- Maven primarily provides developers with:
 1. A comprehensive, reusable, and easily maintainable model for projects.
 2. Plugins or tools to interact with and operate within this model.
- Maven is a POM (Project Object Model)-based build automation and project management tool written in Java. However, it is compatible with projects written in C#, Python, Ruby, etc.

A few Mavens features worth mentioning are:

1. Maven can be used to build projects into predefined output types like .jar, .war, metadata, etc.
2. Maven can automatically download necessary files from the repository when building a project.

Selenium Using Maven in Jenkins

Selenium is a widely used test automation framework for validating web applications across different combinations of browsers, platforms, and devices (or emulators). It is extensively used for testing areas such as functional testing, end-to-end testing, and more.

Why Jenkins and Selenium?

- Running Selenium tests in Jenkins allows you to execute your tests every time your software changes and deploy the software to new environments when the tests pass.

Advantages of Using Maven and Jenkins with Selenium:

- Whenever a change is made in the implementation, the changes are deployed in the test environment. Automation testing is performed continuously, and developers are kept informed about the build and test stage results.
- Test suites comprising many test scenarios might take a longer duration for testing. In such cases, a nightly build run can be scheduled for build and execution on the Jenkins server.

OUTPUT

Dashboard > Rutaj Anil Damodare > My Views > All > exp 7 >

General Source Code Management Build Triggers Build Environment Pre Steps Build Post Steps Build Settings

Post-build Actions

Description

[Plain text] Preview

☐ Discard old builds ?

☐ GitHub project ?

☐ This build requires lockable resources ?

☒ This project is parameterized ?

String Parameter

Name ?

Application

Default Value ?

https://classic.cmpo.com/index.html

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General Source Code Management Build Triggers Build Environment Pre Steps Build Post Steps Build Settings

Post-build Actions

String Parameter

Name ?

XML Suite

Default Value ?

testing.xml

Description ?

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General Source Code Management Build Triggers Build Environment Pre Steps Build Post Steps Build Settings

Post-build Actions

Source Code Management

☐ None
☒ Git

Repositories

Repository URL
https://github.com/Rutaj03/Framework.git

Credentials
~ none ~ Add

Advanced...
Add Repository

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General Source Code Management Build Triggers Build Environment Pre Steps Build Post Steps Build Settings

Post-build Actions

Source Code Management

Branches to build

Branch Specifier (blank for 'any')
*/master

Add Branch

Repository browser
(Auto)

Additional Behaviours
Add

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General Source Code Management Build Triggers Build Environment Pre Steps Build Post Steps Build Settings

Post-build Actions

Build Triggers

☒ Build whenever a SNAPSHOT dependency is built
☐ Schedule build when some upstream has no successful builds
☐ Trigger builds remotely (e.g., from scripts)
☐ Build after other projects are built
☐ Build periodically
☐ GitHub hook trigger for GITScm polling
☐ Poll SCM

Build Environment

☐ Delete workspace before build starts
☐ Use secret text(s) or file(s)
☐ Abort the build if it's stuck
☐ Add timestamps to the Console Output
☐ Inspect build log for published Gradle build scans
☐ With Ant

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General Source Code Management Build Triggers Build Environment **Pre Steps** Build Post Steps Build Settings

Post-build Actions

Build

Root POM
Framework/pom.xml

Goals and options
clean install -Dbrowser=\$Browser -DurlToBeTested=\$Application -DxmlFiles=\$XMLSuite

Advanced...

Post Steps

☐ Run only if build succeeds ☐ Run only if build succeeds or is unstable ☒ Run regardless of build result

Should the post-build steps run only for successful builds, etc.

Add post-build step >

Build Settings

☐ E-mail Notification

Post-build Actions

Save Apply

Jenkins

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Back to Project Status Changes Console Output View as plain text Edit Build Information Delete build 'R' Parameters Git Build Data Redeploy Artifacts See Fingerprints

Console Output

```

Started by user Rutaj Anil Damodare
Running as SYSTEM
Building in workspace C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\exp 7
Unpacking https://repo.maven.apache.org/maven2/org/apache/maven/apache-maven/3.8.2/apache-maven-3.8.2-bin.zip to
C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\tools\maven\tasks\maven\maven\installation\maven on Jenkins
The recommended git tool is: NONE
No credentials specified
Cloning the remote git repository
Cloning repository https://github.com/Rutaj03/Framework.git
> C:\Program Files\Git\bin\git.exe init C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\exp 7 # timeout=10
Fetching upstream changes from https://github.com/Rutaj03/Framework.git
> C:\Program Files\Git\bin\git.exe --version # timeout=10
> git --version # 'git version 2.32.0.windows.2'
> C:\Program Files\Git\bin\git.exe fetch --tags --force --progress -- https://github.com/Rutaj03/Framework.git +refs/heads/*:refs/remotes/origin/* #
timeout=10
> C:\Program Files\Git\bin\git.exe config remote.origin.url https://github.com/Rutaj03/Framework.git # timeout=10
> C:\Program Files\Git\bin\git.exe config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
> C:\Program Files\Git\bin\git.exe rev-parse 'refs/remotes/origin/master^{commit}' # timeout=10
Checking out Revision 4dc0b7957a75eaad375aa970311c705a4d974a (refs/remotes/origin/master)
> C:\Program Files\Git\bin\git.exe config core.sparsecheckout # timeout=10
> C:\Program Files\Git\bin\git.exe checkout -f 4dc0b7957a75eaad375aa970311c705a4d974a # timeout=10
Commit message "v"
First time build. Skipping changelog.
Parsing POM
Discovered a new module Framework\Framework\Framework
Modules changed, recalculating dependency graph
Established TCP socket on 1055
  
```

Activate Windows
Go to Settings to activate Windows.

Dashboard > Rutaj Anil Damodare > My Views > All > exp 7 > #1

```

[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-components/1.1.1/plexus-components-1.1.1.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-components/1.1.1/plexus-components-1.1.1.pom (5.0 kB at 17
kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus/1.0.8/plexus-1.0.8.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus/1.0.8/plexus-1.0.8.pom (7.2 kB at 23 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-container-default/1.0-alpha-8/plexus-container-default-
1.0-alpha-8.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-container-default/1.0-alpha-8/plexus-container-default-
1.0-alpha-8.pom (7.3 kB at 23 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0.5/plexus-utils-3.0.5.jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-digest/1.0/plexus-digest-1.0.jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-digest/1.0/plexus-digest-1.0.jar (12 kB at 10 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0.5/plexus-utils-3.0.5.jar (120 kB at 105 kB/s)
[INFO] Installing C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\exp 7\Framework\target\Framework-0.0.1-SNAPSHOT.jar to
C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\exp 7\Framework\target\Framework-0.0.1-SNAPSHOT.jar
[INFO] Installing C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\exp 7\Framework\target\Framework-0.0.1-SNAPSHOT.jar to
C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\exp 7\Framework\target\Framework-0.0.1-SNAPSHOT.jar
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 03:28 min
[INFO] Finished at: 2021-10-04T12:53:03+05:30
[INFO] -----
[INFO] Waiting for Jenkins to finish collecting data
[INFO] Archiving C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\exp 7\Framework\target\Framework-0.0.1-SNAPSHOT.jar to
Framework\Framework\0.0.1-SNAPSHOT\Framework-0.0.1-SNAPSHOT.pom
[INFO] Archiving C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\exp 7\Framework\target\Framework-0.0.1-SNAPSHOT.jar
to Framework\Framework\0.0.1-SNAPSHOT\Framework-0.0.1-SNAPSHOT.jar
channel stopped
Finished: SUCCESS
  
```

Activate Windows

CONCLUSION:

Therefore, setting up and running Selenium tests in Jenkins using Maven ensured that web applications were thoroughly tested as part of the continuous integration process.