

Experiment No. 1.5

Student Name: Parvinder Singh

UID: 22MCC20043

Branch: MCA - CCD

Section/Group: 22MCD-1/ Grp B

Semester: III

Subject Name: DevOps Process Automation Lab

Subject Code: 22CAP-745

1. Aim/Overview of the practical:

Create a Jenkins Freestyle Project which consists of Maven Build jobs.

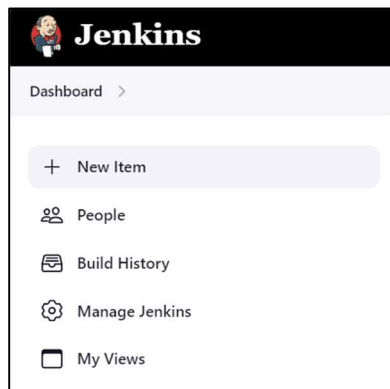
Note: Trigger the builds of all the Maven 9 Goals.

2. Code for experiment/practical:

Jenkins freestyle projects allow users to automate simple jobs, such as running tests, creating and packaging applications, producing reports, or executing commands.

Step 1: How to Set up a Build Job in Jenkins

- Click the New Item link on the left-hand side of the Jenkins dashboard.



- Enter the new project's name in the Enter an item name field and select the Freestyle project type. Click OK to continue.



The screenshot shows the "Enter an item name" form in Jenkins. At the top, there's a header with the text "Enter an item name". Below the header, there's a text input field containing the text "Maven Project". Underneath the input field, there's a small text label that says "» Required field". Below the input field, there's a section titled "Freestyle project" with a blue folder icon. The text below the title says: "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."

- Under the General tab, add a project description in the Description field.



Step 2: How to Setup Source code management

- Click on Source code management.
- Select Git. Provide Git repository link, Branch to build.



Step 3: Add Build trigger

Note: Make sure you have one job available previously for using this feature.

- Click on build trigger.
- Select Build after other projects are built.
- You can add additional properties according to project requirement

Step 4: Add a Build Step

- Scroll down to the Build section.
- Open the Add build step drop-down menu and select Invoke top-level Maven targets.
- Provide Maven version and Goals to execute.

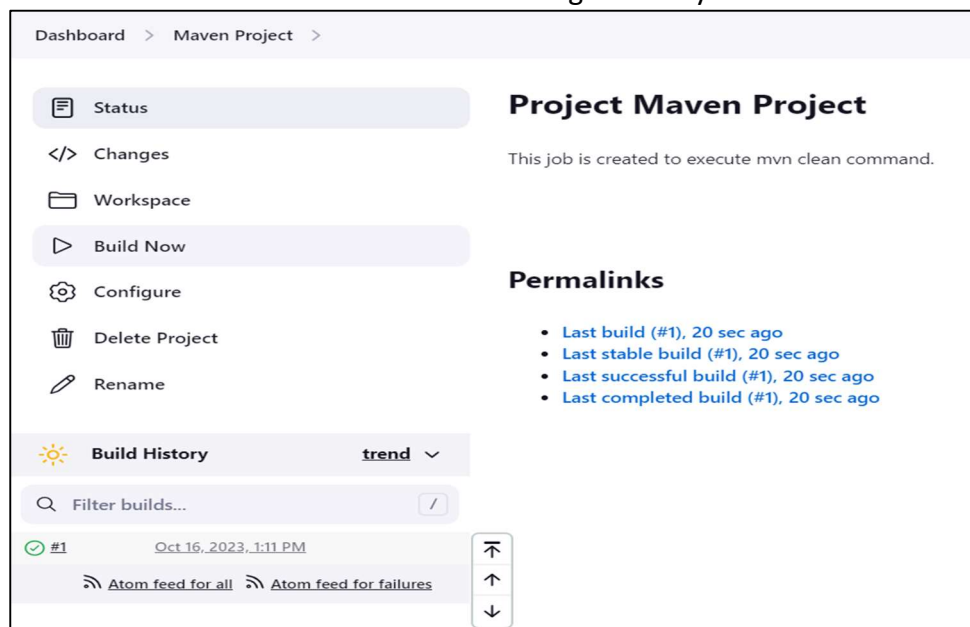


Step 5: Save and apply

- Click the Save button to save changes to the project.

Step 6: Build the Project

- Click the Build Now link on the left-hand side of the new project page.
- Click the link to the latest project build in the Build History section.
- Click the Console Output link on the left-hand side to display the output for the commands you entered.
- The console output indicates that Jenkins is successfully executing the commands, displaying the current version of Java and Jenkins working directory.



Trigger the builds of all the Maven 9 Goals

- Repeat all steps to create maven 9 Goal jobs except Step 3.
- In Step 3 you have to provide different Build trigger to execute one another. For example: After mvn clean -> mvn validate.

mvn clean

Build Triggers

☐ Trigger builds remotely (e.g., from scripts) ?

☐ Build after other projects are built ?

☐ Build periodically ?

☐ GitHub hook trigger for GITScm polling ?

☐ Poll SCM ?



mvn validate

Build Triggers

☐ Trigger builds remotely (e.g., from scripts) ?

☒ Build after other projects are built ?

Projects to watch

Maven Project

Maven Project

☒ Trigger only if build is stable


☐ Trigger even if the build is unstable

- Repeat this build trigger step in every job one another one.

Clean, Validate, Compile, Test, Package, Integration-Test, Verify, Install, Deploy.

- After Creating and building all these 9 jobs you have successfully implemented freestyle CI/CD pipeline

S	W	Name ↓	Last Success	Last Failure	Last Duration	
✓	☀	Maven Compile	33 min #2	N/A	3.4 sec	▶
✓	☀	Maven Install	32 min #2	N/A	4.6 sec	▶
✓	☁	Maven Integration-Test	32 min #5	1 hr 11 min #3	4.6 sec	▶
✓	☀	Maven Package	33 min #2	N/A	4.8 sec	▶
✓	☀	Maven Project	33 min #3	N/A	3.3 sec	▶
✓	☀	Maven Test	33 min #2	N/A	4.2 sec	▶
✓	☀	Maven Validate	33 min #2	N/A	2.7 sec	▶
✓	☀	Maven Verify	32 min #2	N/A	4.7 sec	▶


Jenkins

🔔 1
🛡 1
👤 Parvinder Singh

Dashboard > Parvinder Singh > My Views > Pipeline >

Build Pipeline

Trigger a Pipeline
Pipeline History
Configure
Add Step
Delete
Manage

Pipeline #3

#3 Maven Project
17-Oct-2023 1:42:10 pm
3.3 sec
pinda20043
console re-run


#2 Maven Validate
17-Oct-2023 1:42:22 pm
2.7 sec
console re-run

#2 Maven Compile
17-Oct-2023 1:42:32 pm
3.4 sec
console re-run

#2 Maven Test
17-Oct-2023 1:42:42 pm
4.2 sec
console re-run

#2 Maven Package
17-Oct-2023 1:42:52 pm
4.8 sec
console re-run

#5 Maven Integration-Test
17-Oct-2023 1:43:02 pm
4.6 sec
console re-run


Jenkins

🔔 1
🛡 1
👤 Parvinder Singh
🚪 log out

Dashboard > Parvinder Singh > My Views > Pipeline >

Build Pipeline

Trigger a Pipeline
Pipeline History
Configure
Add Step
Delete
Manage

Pipeline #3

#2 Maven Compile
17-Oct-2023 1:42:32 pm
3.4 sec
console re-run

#2 Maven Test
17-Oct-2023 1:42:42 pm
4.2 sec
console re-run

#2 Maven Package
17-Oct-2023 1:42:52 pm
4.8 sec
console re-run

#5 Maven Integration-Test
17-Oct-2023 1:43:02 pm
4.6 sec
console re-run

#2 Maven Verify
17-Oct-2023 1:43:12 pm
4.7 sec
console re-run

#2 Maven Install
17-Oct-2023 1:43:22 pm
4.6 sec
console re-run