

Lab Exercise 8

Setting up Maven Build Job in Jenkins

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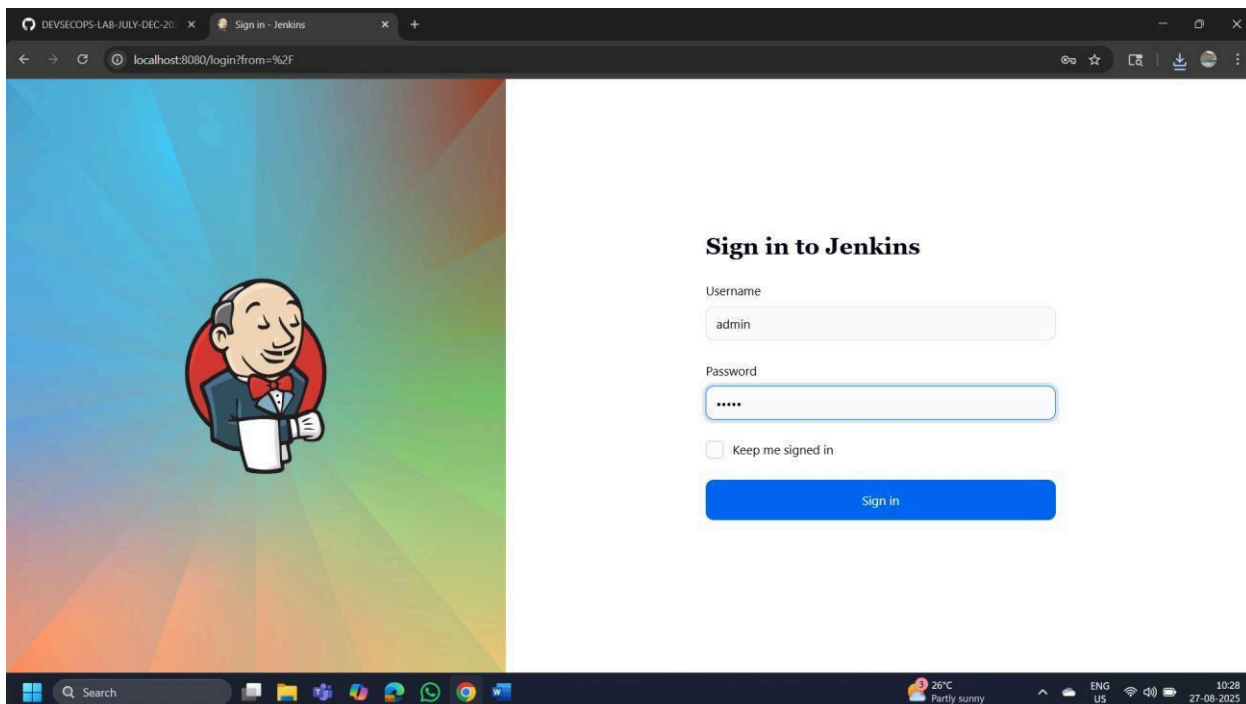
Objective: To set up Maven build job in Jenkins for automating the build process, enabling continuous integration to enhance the software development lifecycle

Tools required: Jenkins

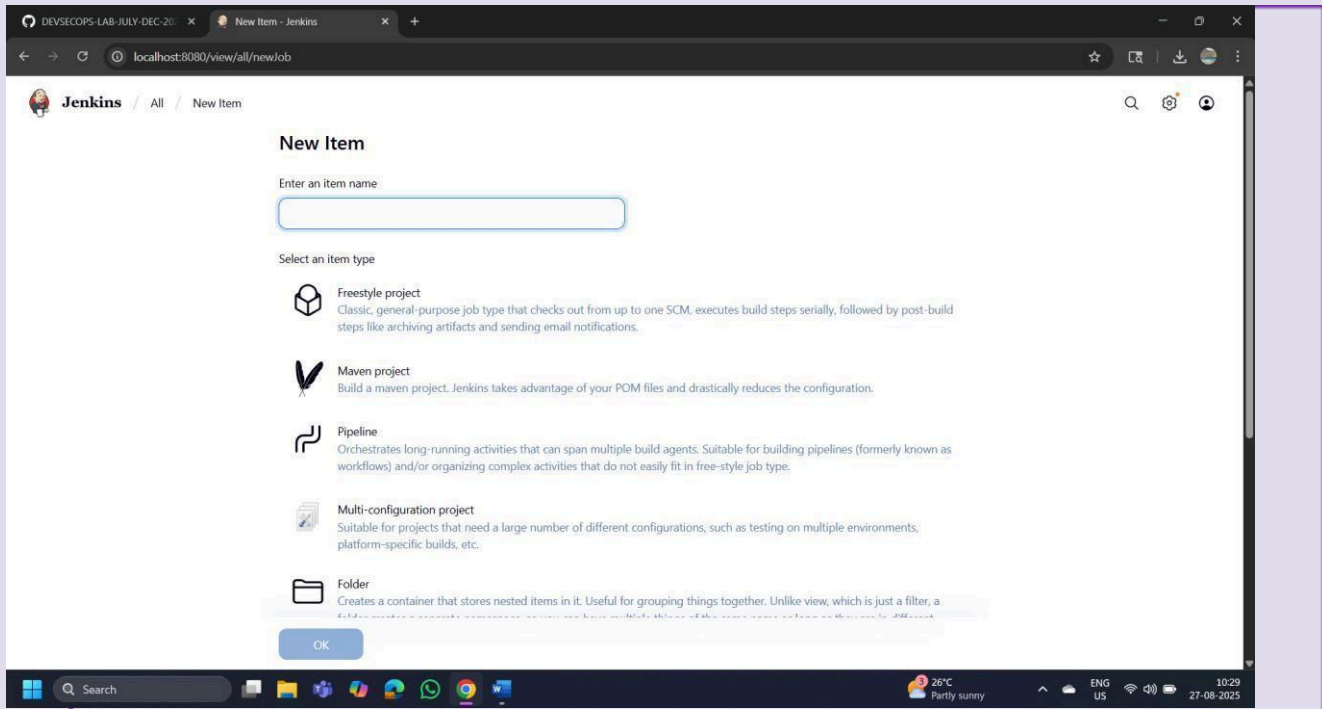
Prerequisites: You need to have a Jenkins up and running.

Step 1: Log in to Jenkins CI tool and configure Maven freestyle job

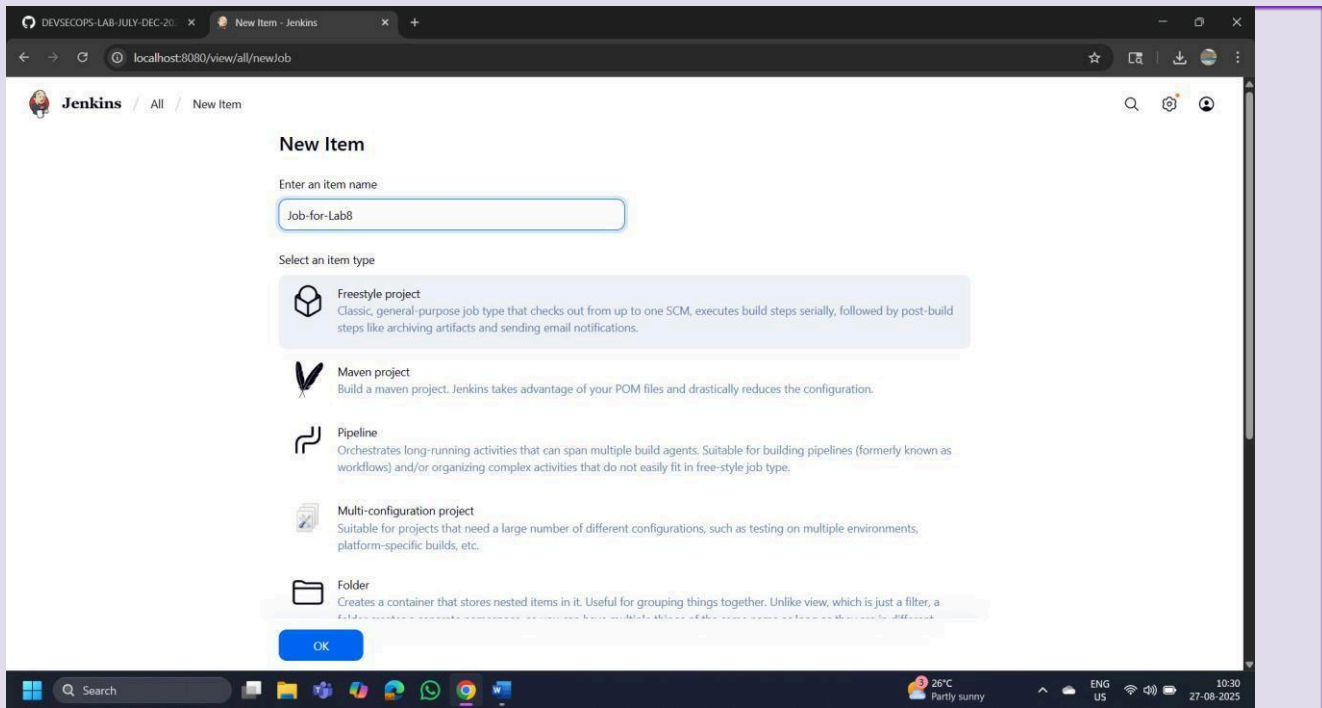
1.1 Log in to Jenkins using your credentials



1.2 In the Jenkins dashboard, click on **New Item**



1.3 Select the **Freestyle project** while creating a Jenkins job, provide a custom job name, and click on **OK**



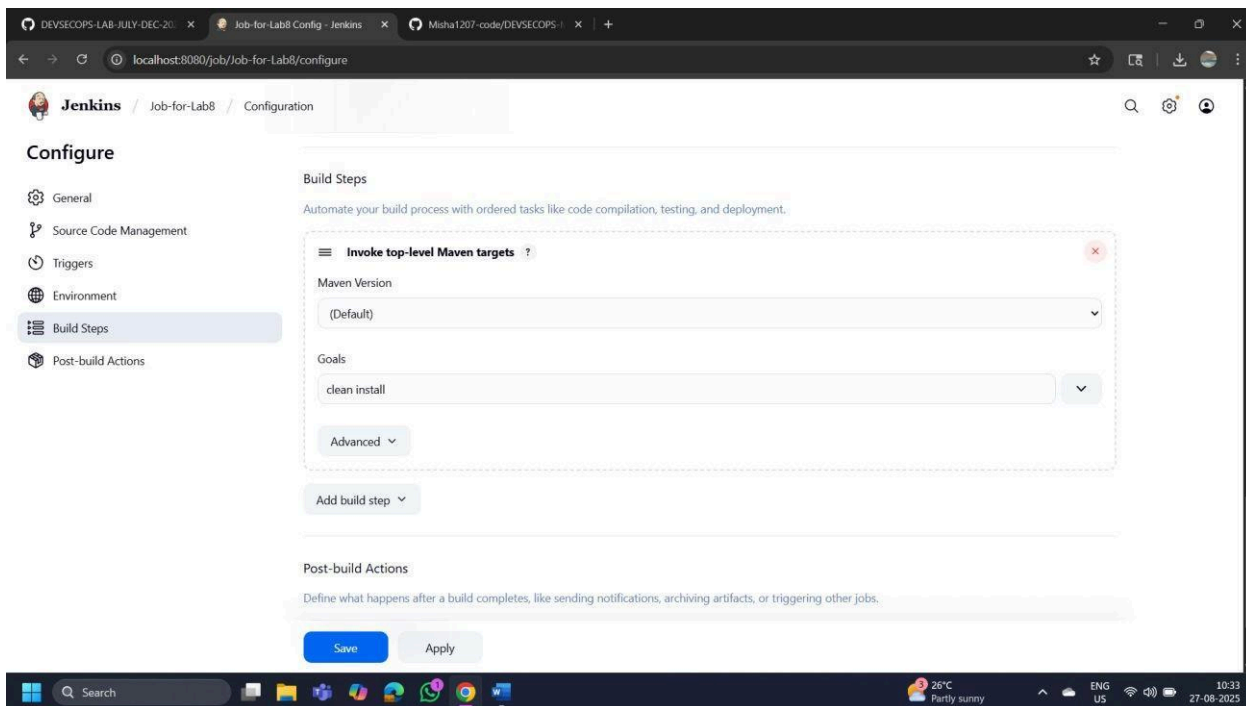
1.4 Now, in the Configure page, navigate to **Source Code Management** in the left navigation bar, select **Git**, and then provide the Git repository URL

The screenshot shows the Jenkins 'Configure' page for a job named 'Job-for-Lab8'. The 'Source Code Management' section is active, and 'Git' is selected as the repository type. The 'Repository URL' field contains 'https://github.com/hkshitesh/DEVSECOPS-MAVEN-REPO.git'. The 'Credentials' dropdown is set to '- none -'. There is an 'Add Repository' button below the repository configuration. The 'Branches to build' section has a 'Branch Specifier (blank for \'any\')' field set to '*/master'. At the bottom, there are 'Save' and 'Apply' buttons.

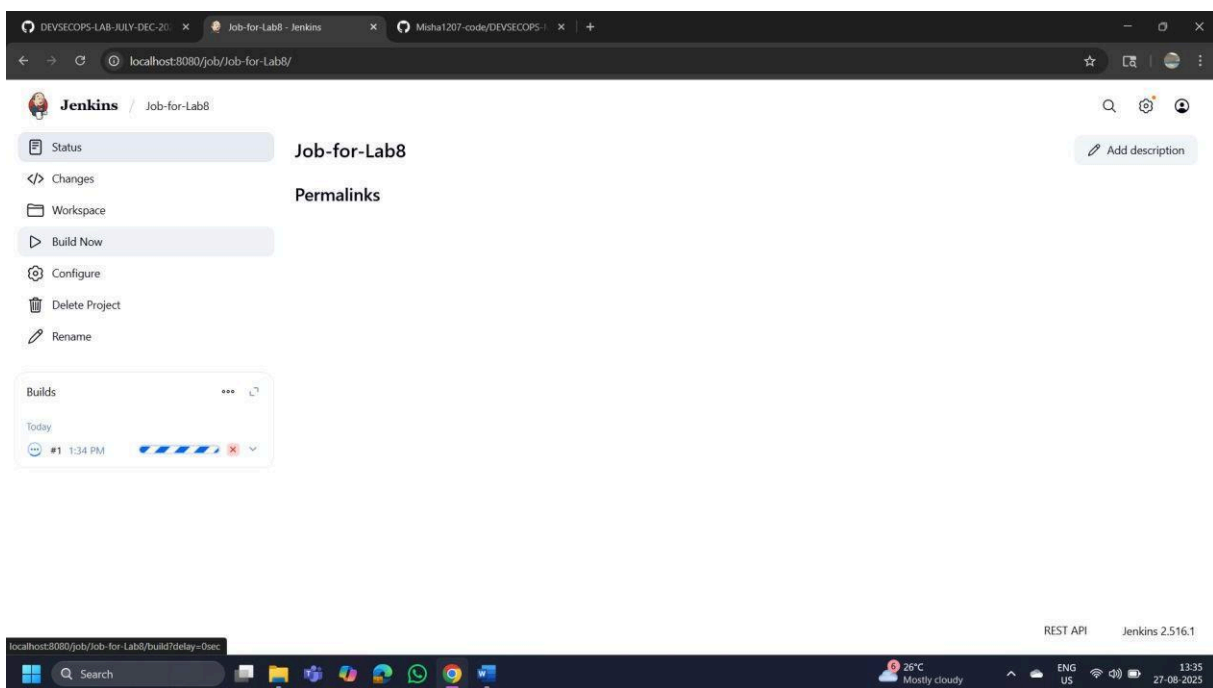
1.5 Now, navigate to **Build Steps**, click on **Add build step**, and then select the option **Invoke top-level Maven targets**

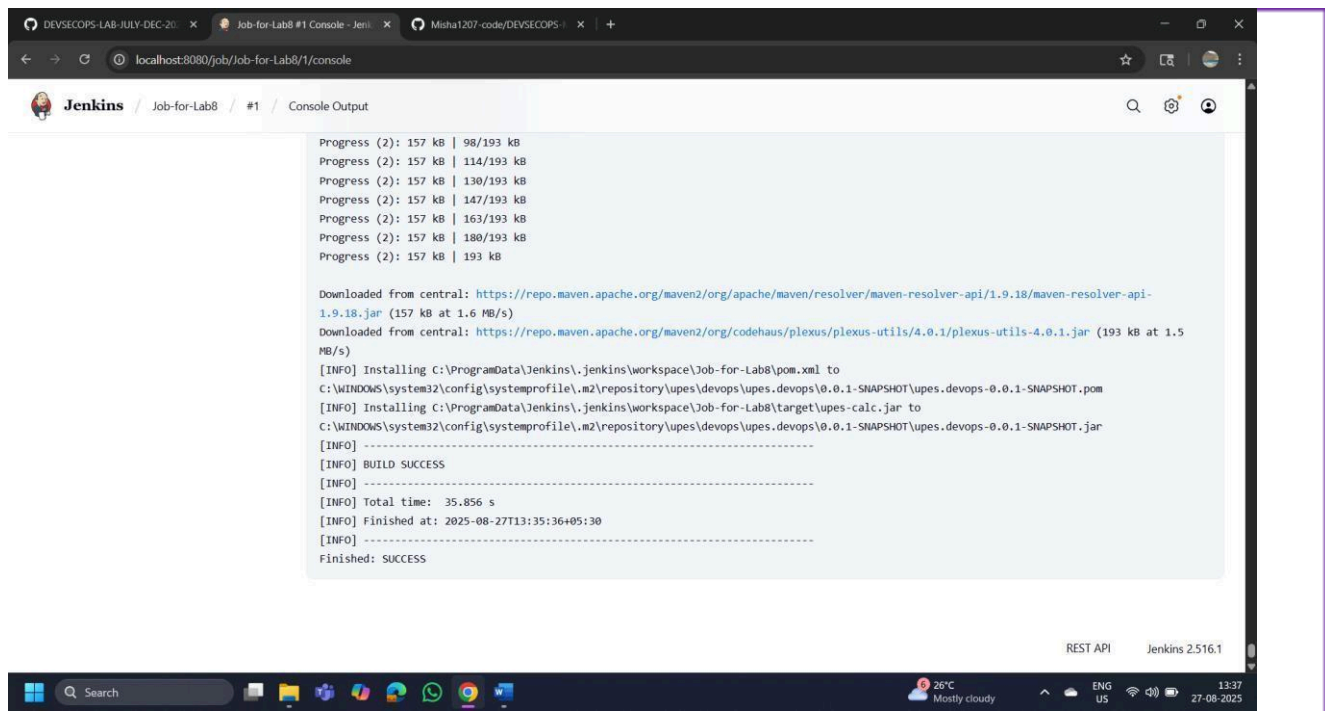
The screenshot shows the Jenkins 'Configure' page for 'Job-for-Lab8', specifically the 'Build Steps' section. The 'Add build step' button is clicked, and a dropdown menu is displayed. The menu options are: 'Filter', 'Execute Windows batch command', 'Execute shell', 'Invoke Ant', 'Invoke Gradle script', 'Invoke top-level Maven targets' (which is highlighted), 'Run with timeout', and 'Set build status to "pending" on GitHub commit'. The background shows the 'Build Steps' section with a description: 'Automate your build process with ordered tasks like code compilation, testing, and deployment.'

1.6 Provide clean install under **Goals** section and then click on **Save**



1.7 You will be navigated to the project after clicking on Save. Now, click on **Build Now** to initiate a new build, and the build logs will display the progress of the build process.





The screenshot shows a web browser window displaying the Jenkins console output for a job named 'Job-for-Lab8'. The browser's address bar shows 'localhost:8080/job/Job-for-Lab8/1/console'. The Jenkins interface includes a header with the Jenkins logo and the job name, and a sidebar with search, settings, and user icons. The main console area displays the following output:

```
Progress (2): 157 kB | 98/193 kB
Progress (2): 157 kB | 114/193 kB
Progress (2): 157 kB | 130/193 kB
Progress (2): 157 kB | 147/193 kB
Progress (2): 157 kB | 163/193 kB
Progress (2): 157 kB | 180/193 kB
Progress (2): 157 kB | 193 kB

Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/resolver/maven-resolver-api/1.9.18/maven-resolver-api-1.9.18.jar (157 kB at 1.6 MB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/4.0.1/plexus-utils-4.0.1.jar (193 kB at 1.5 MB/s)
[INFO] Installing C:\ProgramData\Jenkins\jenkins\workspace\Job-for-Lab8\pom.xml to
C:\WINDOWS\system32\config\systemprofile\.m2\repository\upes\devops\upes.devops\0.0.1-SNAPSHOT\upes.devops-0.0.1-SNAPSHOT.pom
[INFO] Installing C:\ProgramData\Jenkins\jenkins\workspace\Job-for-Lab8\target\upes-calc.jar to
C:\WINDOWS\system32\config\systemprofile\.m2\repository\upes\devops\upes.devops\0.0.1-SNAPSHOT\upes.devops-0.0.1-SNAPSHOT.jar
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 35.856 s
[INFO] Finished at: 2025-08-27T13:35:36+05:30
[INFO] -----
Finished: SUCCESS
```

At the bottom right of the console area, it says 'REST API' and 'Jenkins 2.516.1'. The Windows taskbar is visible at the bottom, showing the search bar, task icons, system clock (13:37), and date (27-08-2025).

You can see that the build is configured successfully.

By following these steps, you have successfully set up Maven build job in Jenkins for automating the build process, enabling continuous integration to enhance the software development lifecycle.

