# Lab Exercise 7
# Integrating Maven with Jenkins

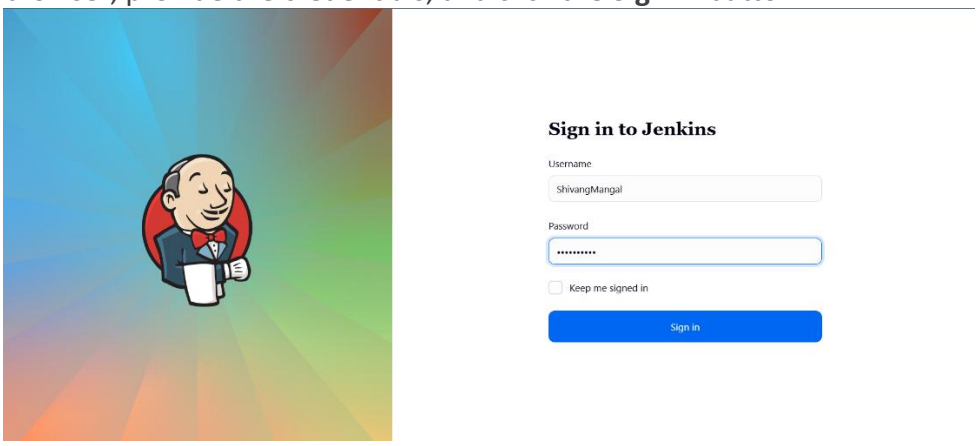
**Objective:** To install the Maven plugin in Jenkins for smooth integration and automation of Maven-based build processes within the Jenkins environment
**Tools required:** Git, GitHub, and Jenkins
**Prerequisites:** None

Steps to be followed:

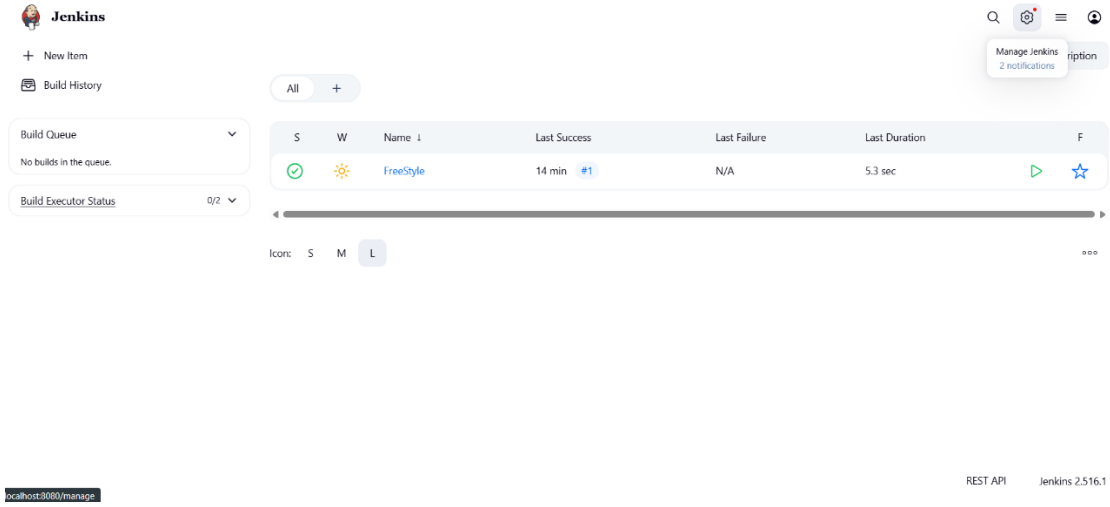
1. Install the Maven plugin
2. Set up Global Tool Configuration
3. Fork a sample repository
4. Integrate Maven with Jenkins

## Step 1: Install the Maven plugin

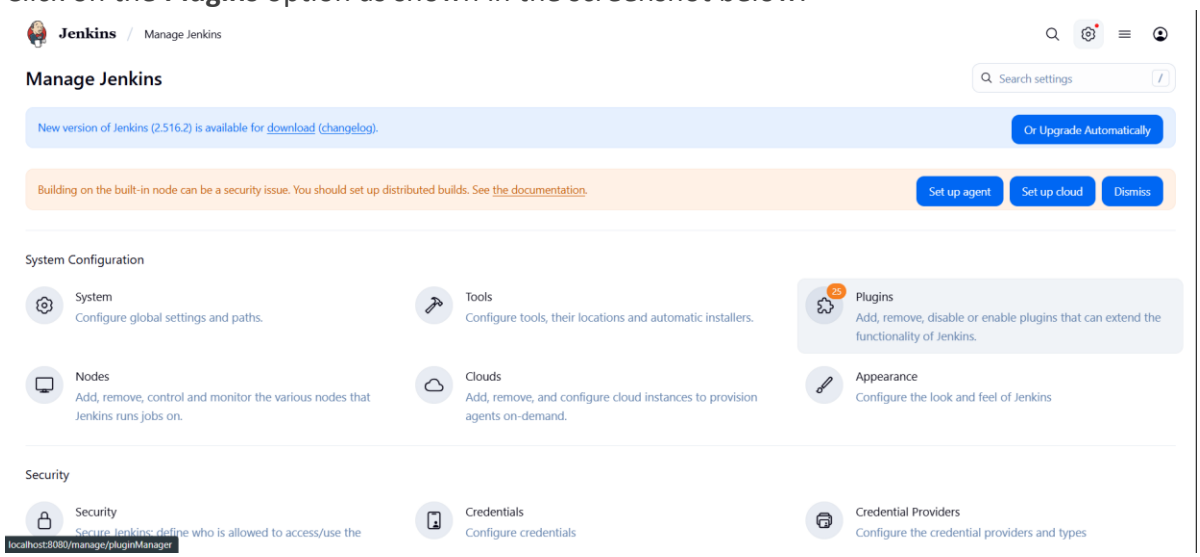
1.1 Open the browser, go to the Jenkins Dashboard by typing **localhost:8080** in your browser, provide the credentials, and click the **Sign in** button



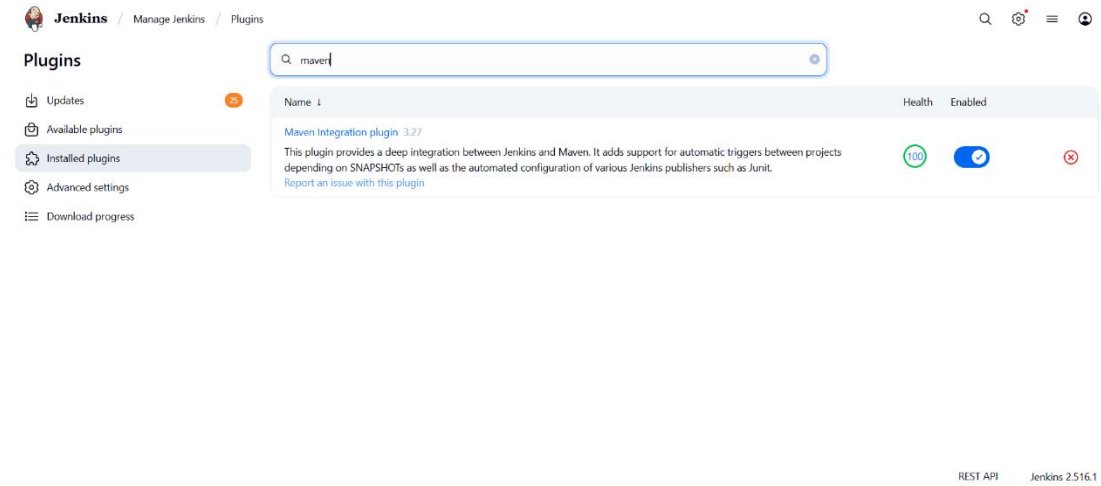

1.2 Click on the **Manage Jenkins** option as shown in the screenshot below:



1.3 Click on the **Plugins** option as shown in the screenshot below:




1.4 Click on **Installed plugins** to verify whether the **Maven Integration plugin** has been installed




**Note**: Maven is already installed in your practice lab environment. If not, click on **Available plugins**, search for the Maven Integration plugin, and install it.

1.5 Use the following command to check the Maven version:

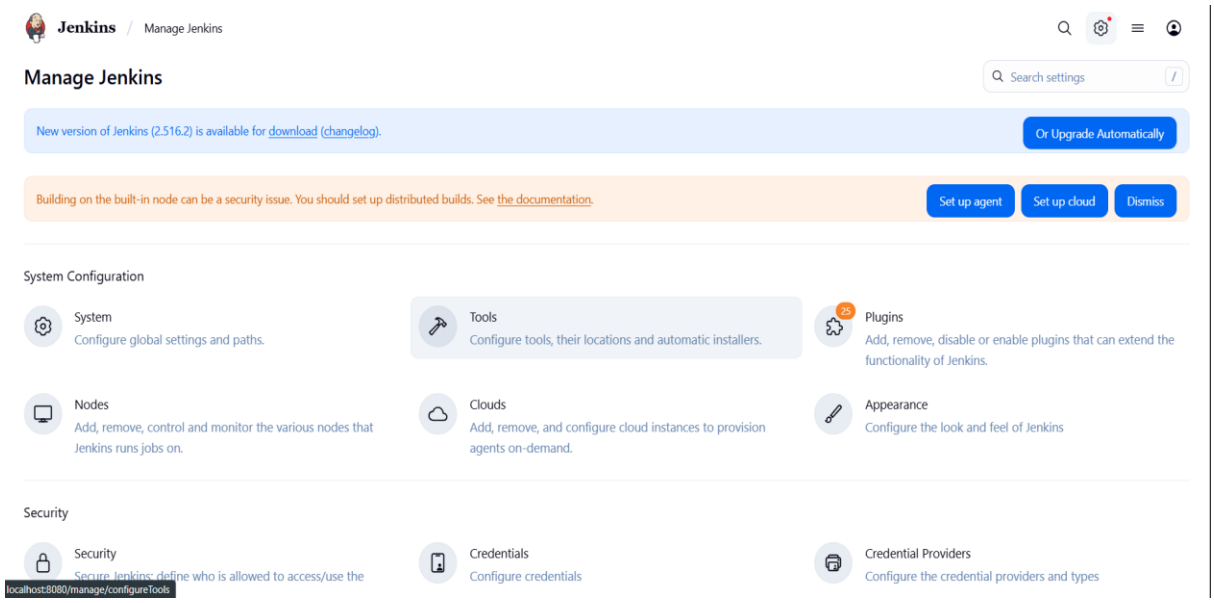
**mvn -version**

```
Microsoft Windows [Version 10.0.26100.4946]
(c) Microsoft Corporation. All rights reserved.

C:\Users\HP>mvn --version
Apache Maven 3.9.9 (8e8579a9e76f7d015ee5ec7bfcdc97d260186937)
Maven home: C:\maven-mvnd-1.0.2-windows-amd64\mvn
Java version: 23.0.1, vendor: Oracle Corporation, runtime: C:\Program Files\Java\jdk-23
Default locale: en_IN, platform encoding: UTF-8
OS name: "windows 11", version: "10.0", arch: "amd64", family: "windows"
```

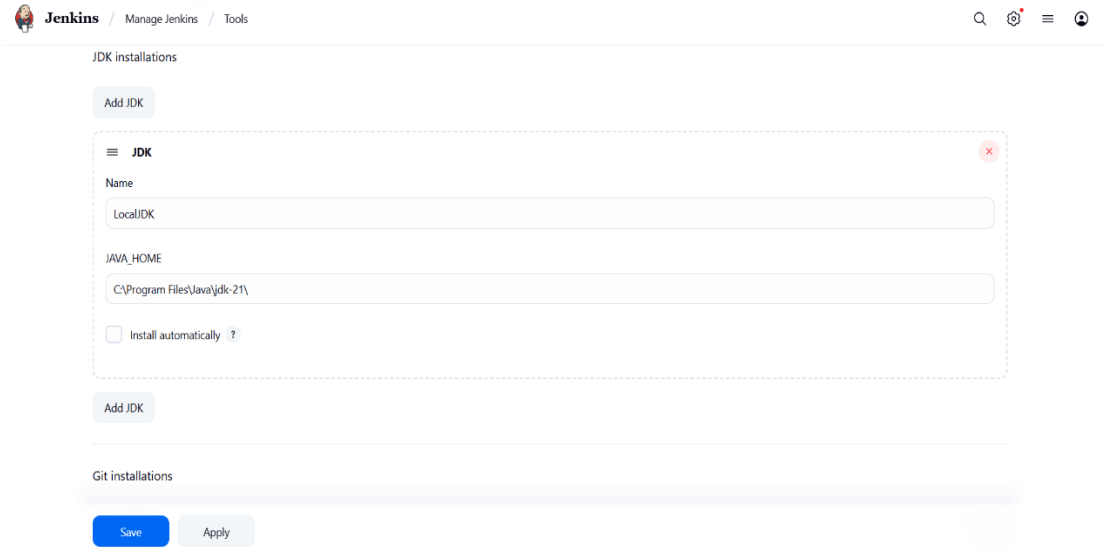
## Step 2: Set up Global Tool Configuration

2.1 Go to the Jenkins Dashboard, click on **Manage Jenkins**, and then select **Tools** from the list of options



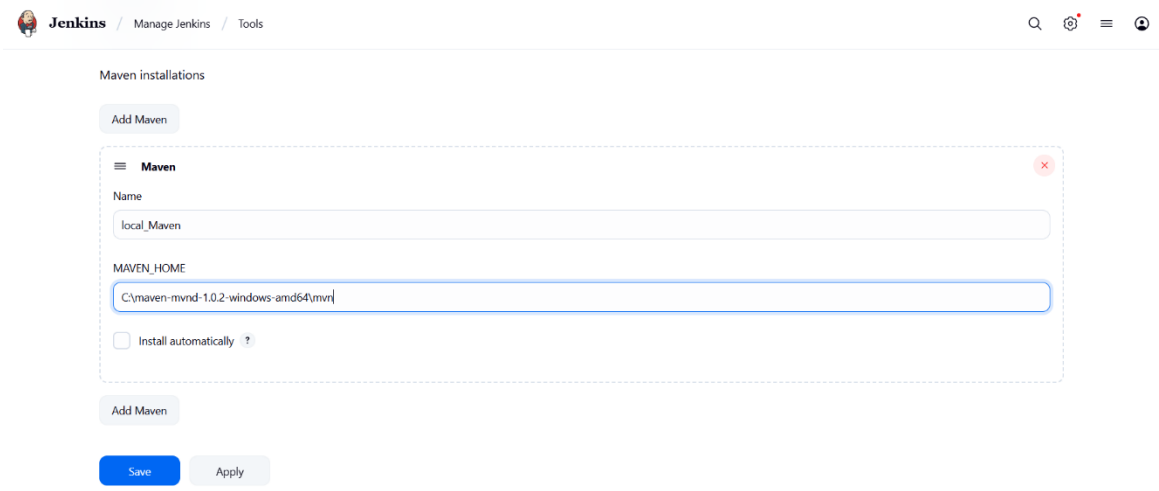

2.2 Click on **JDK installations** and provide the **Name** and **JAVA_HOME** path

**Note:** Set the **JAVA_HOME** environment variable to **/usr/lib/jvm/java-11-openjdk-amd64**



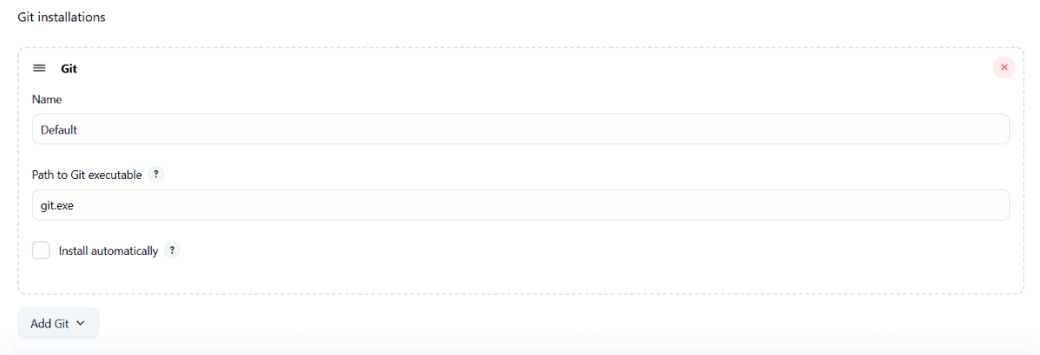
2.3 To configure Maven, click on the **Maven installations** button in the Maven section and enter a **Name** and **MAVEN_HOME** path

**Note**: Set the **MAVEN_HOME** environment variable to **/usr/share/maven**



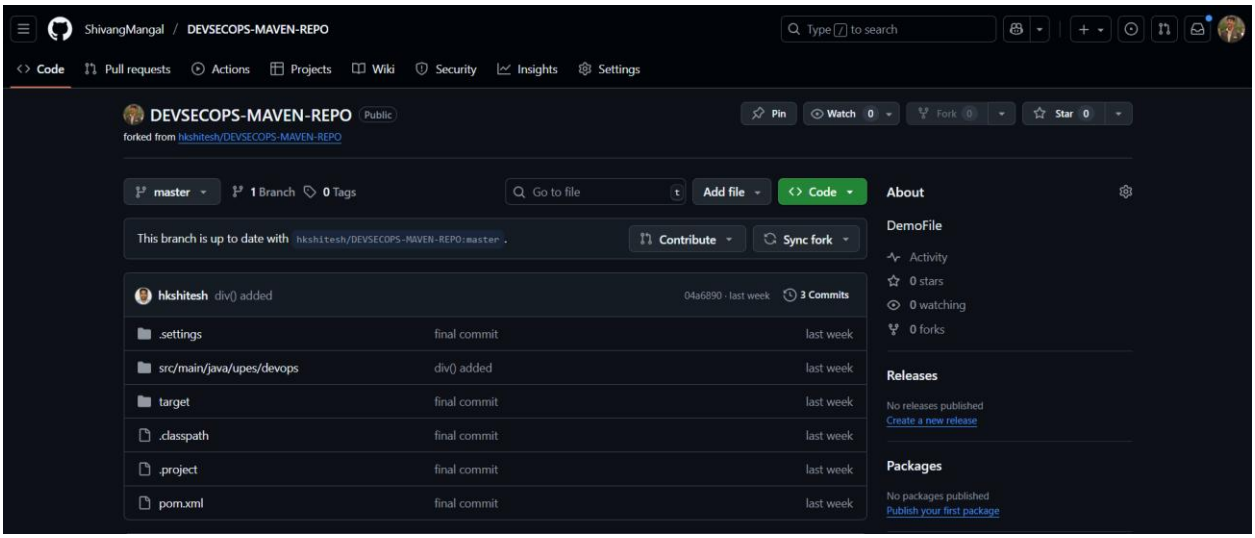

2.4 To configure Git, click on **Git installations** and add the **Name** and **Path to Git executable**

**Note**: Set the **Path to Git executable** environment variable to **/bin/git** and click on **Save**

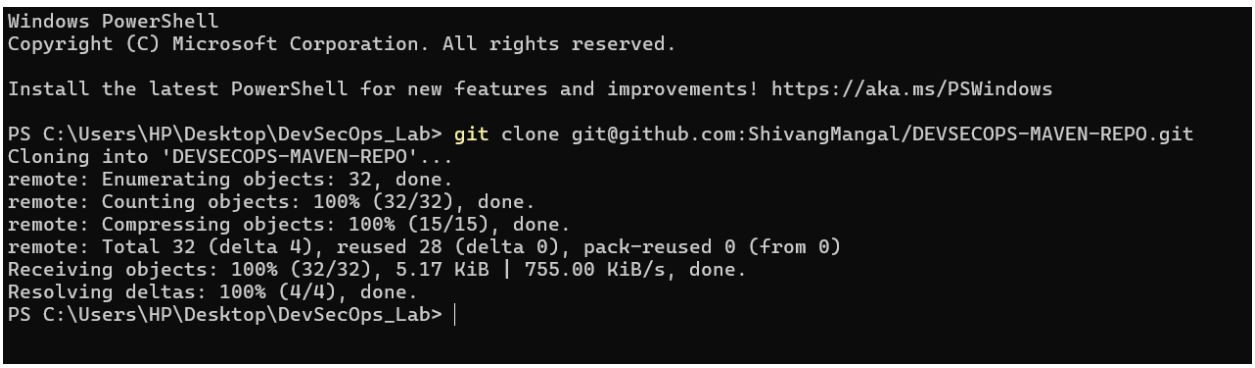



## Step 3: Fork a sample repository

3.1 Log in to your GitHub account, navigate to **https://github.com/jenkins-docs/simple-java-maven-app**, and click on **Fork**




3.2 Run **git clone [Forked REPO URL]** in the terminal to clone the repository locally



```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\HP\Desktop\DevSecOps_Lab> git clone git@github.com:ShivangMangal/DEVSECOPS-MAVEN-REPO.git
Cloning into 'DEVSECOPS-MAVEN-REPO'...
remote: Enumerating objects: 32, done.
remote: Counting objects: 100% (32/32), done.
remote: Compressing objects: 100% (15/15), done.
remote: Total 32 (delta 4), reused 28 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (32/32), 5.17 KiB | 755.00 KiB/s, done.
Resolving deltas: 100% (4/4), done.
PS C:\Users\HP\Desktop\DevSecOps_Lab>
```
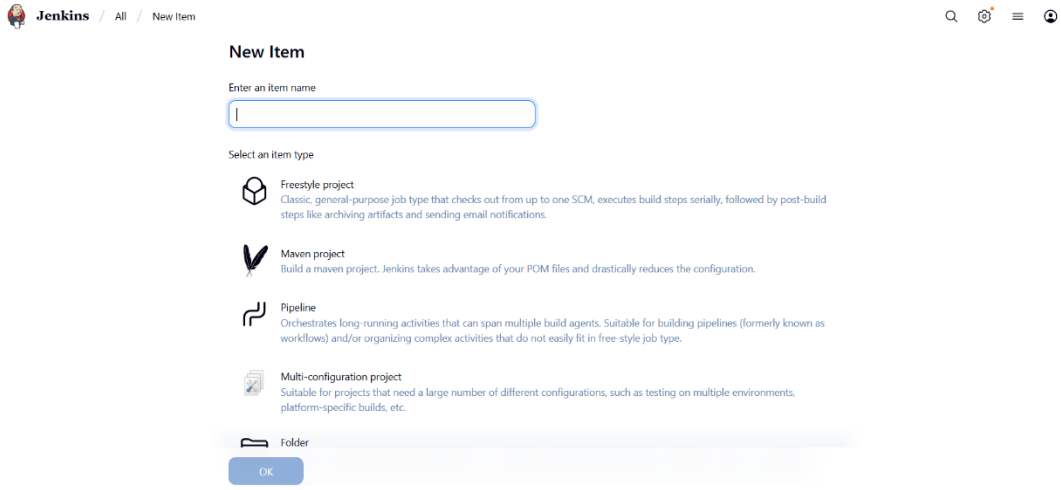
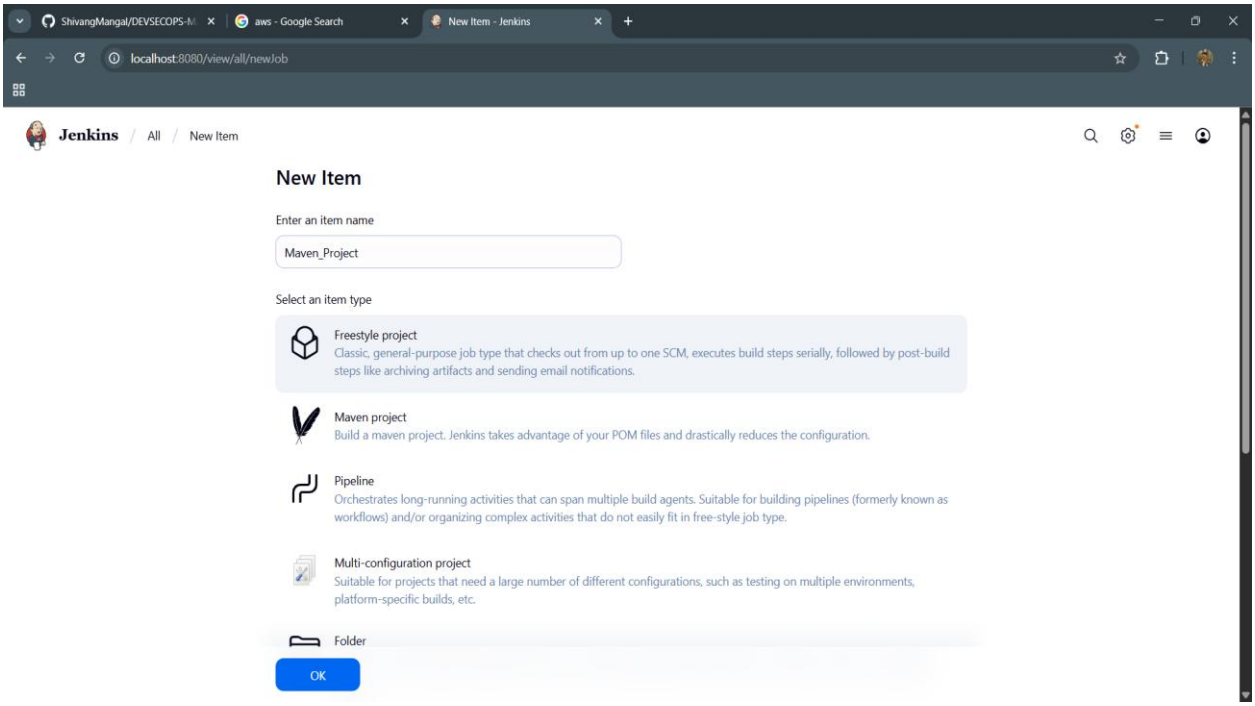

## Step 4: Integrate Maven with Jenkins

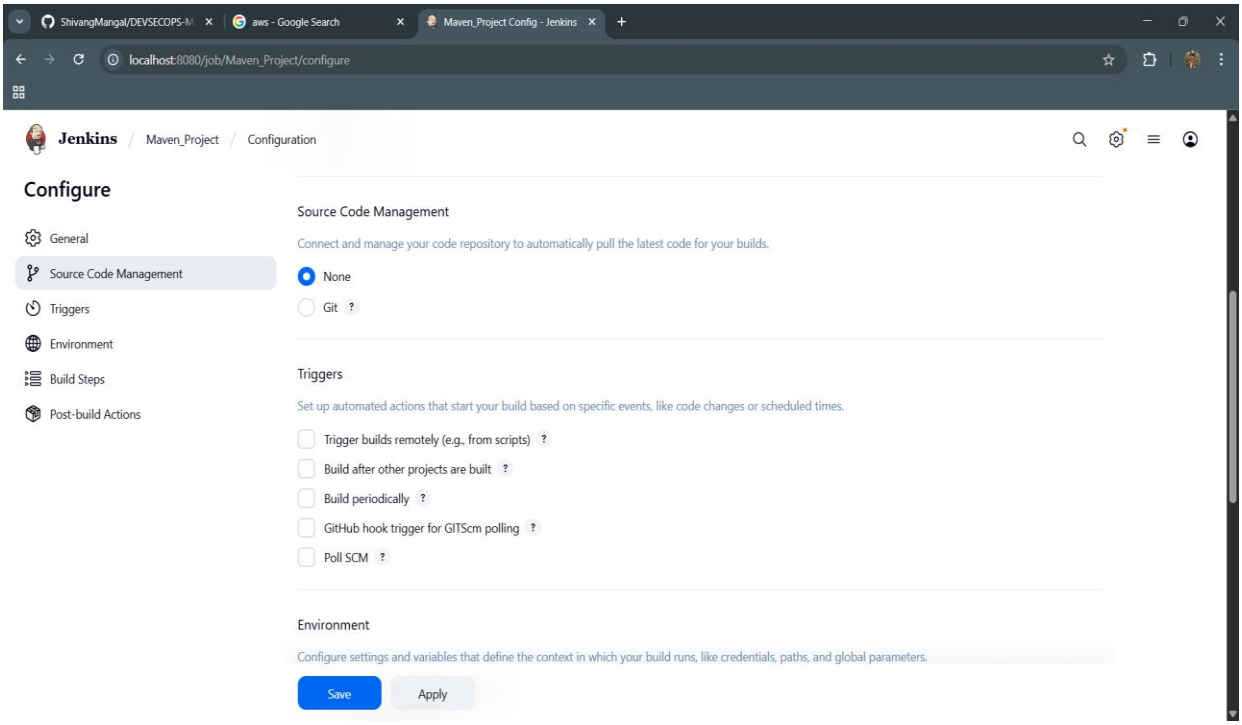
4.1 Click on **New Item** in the Jenkins Dashboard



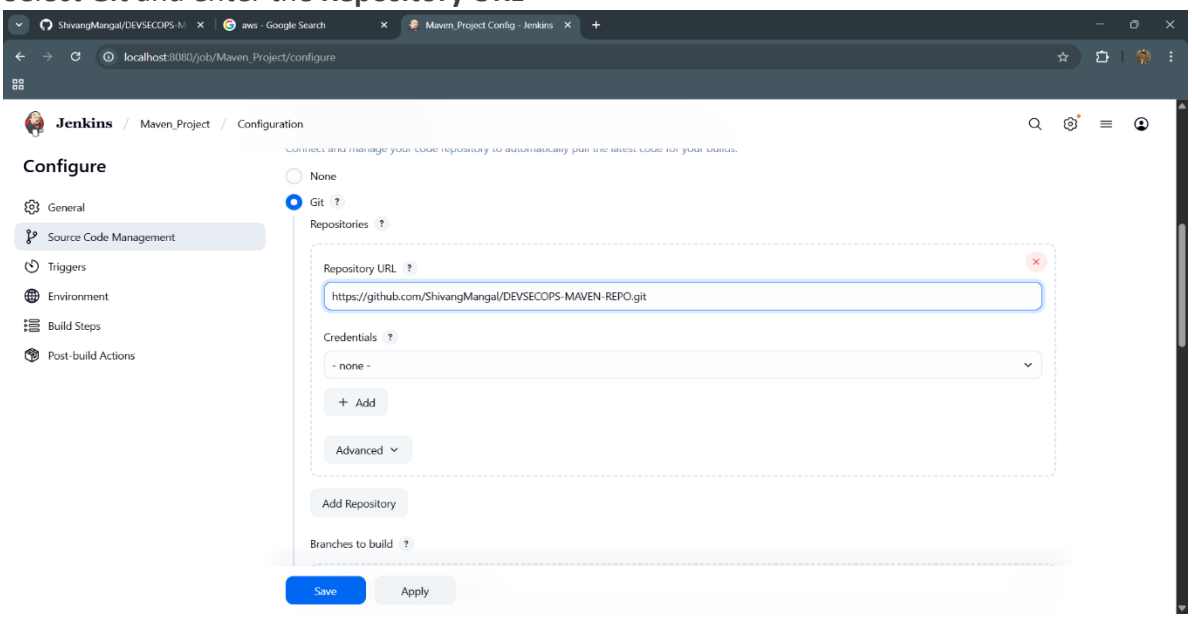
4.2 Enter a name for the project, select **Freestyle project** as the build job type, and click on the **OK** button as shown in the screenshot below:



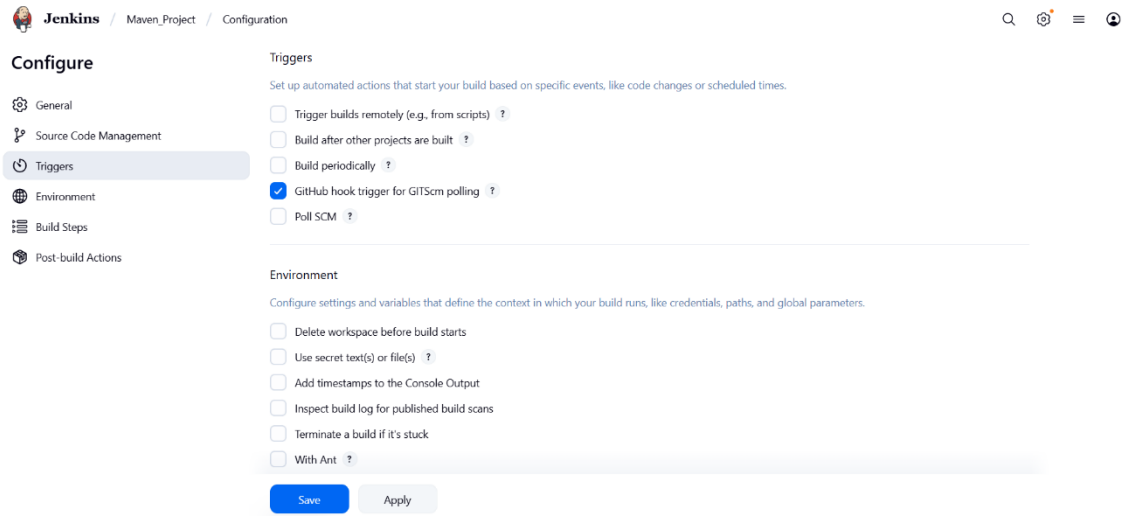

4.3 Click on **Source Code Management**



4.4 Select **Git** and enter the **Repository URL**

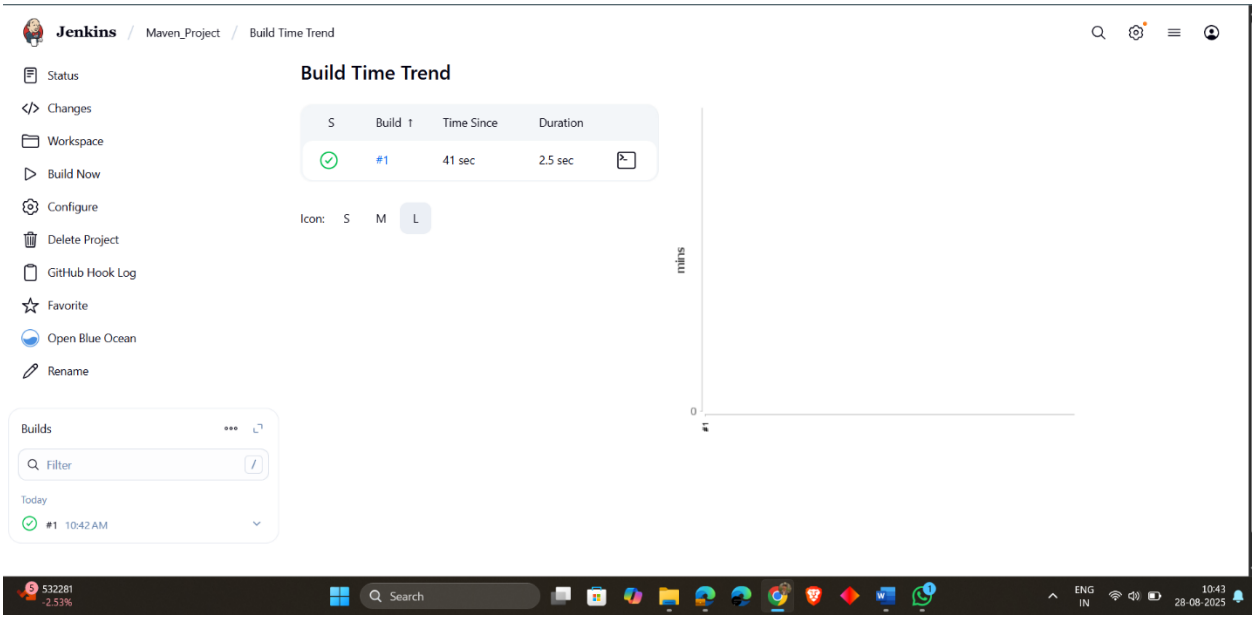



4.5 Click on **Build Triggers**, select the required option as shown in the screenshot below, and then click on **Save**

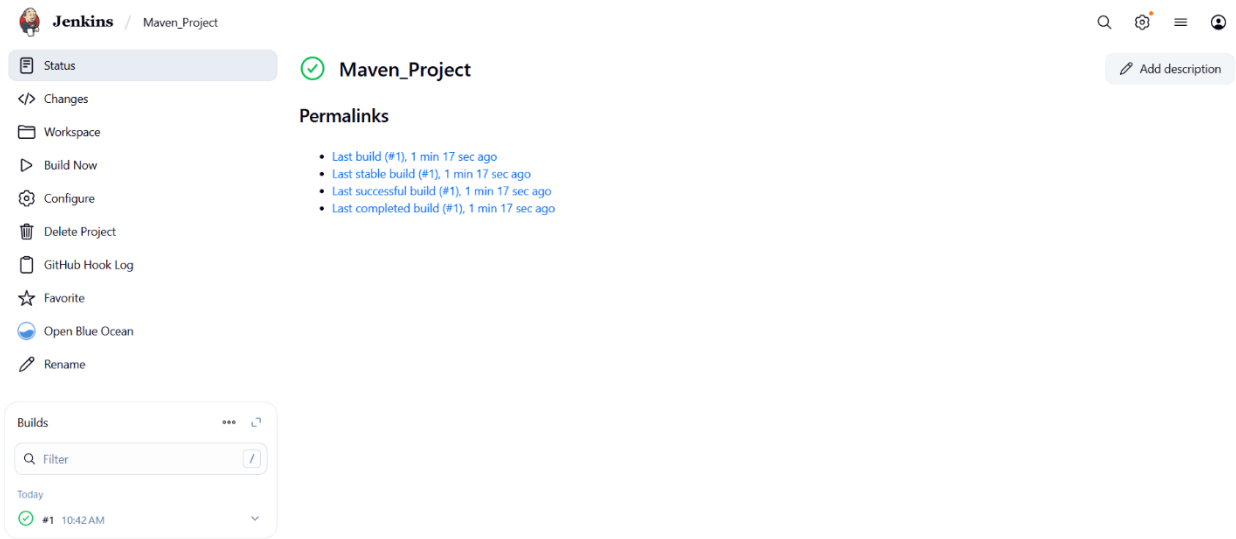



4.6 Click on **Build Now** to view the build results

4.7 Click on **trend** in the **Build History** as shown in the screenshot below:




4.8 Click on **Status** to view the build logs




By following these steps, you have successfully installed the Maven plugin in Jenkins, making it easier to automate Maven-based build tasks within the Jenkins environment for smoother integration and workflow automation.