# Lab 6. Setup Build Jobs

## Background

The freestyle build job is a highly flexible and easy-to-use option. You can use it for any type of project; it is easy to set up, and many of its options appear in other build jobs.

## Objectives

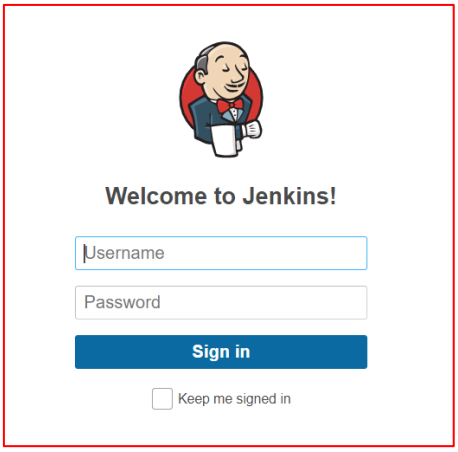
- Create a Job in Jenkins.
- Pull source code from GitHub.
- Build the Project
- Set Environment Variables.

## Pre-Requisite

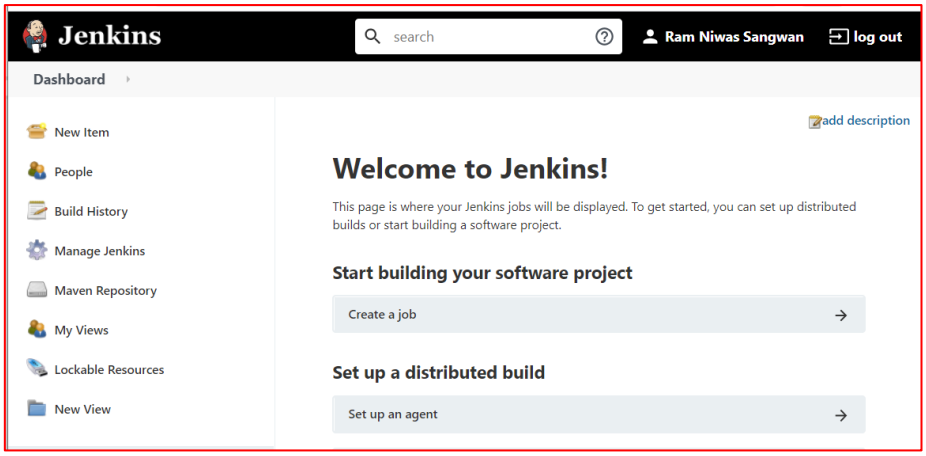
- OL 7 Virtual Machine with Jenkins Installed.
- Internet Access.

## Sequence 1. Setup Build Jobs in Jenkins.

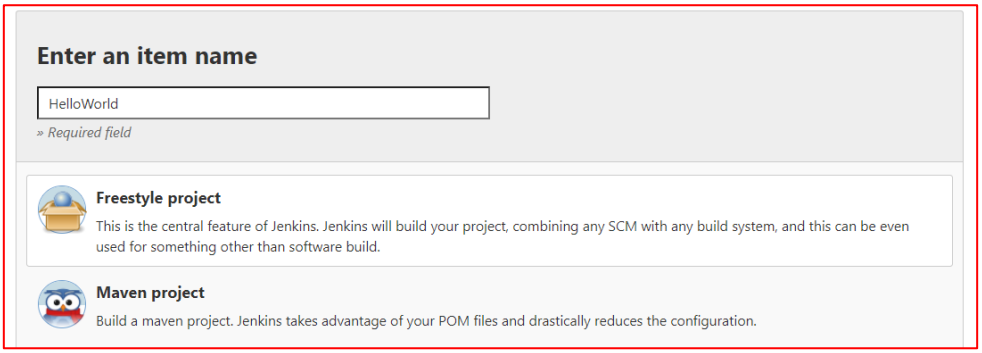
1. Log on to your Jenkins dashboard by visiting your Jenkins installation path. Usually, it will be hosted on localhost at http://10.10.0.100:8080

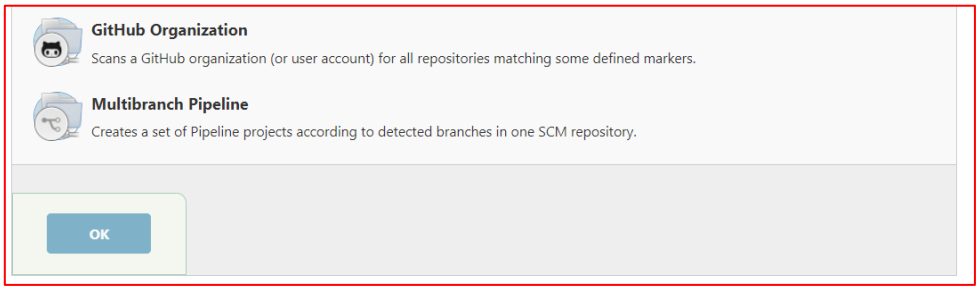



2. Click on "New Item" at the top left-hand side of your dashboard.

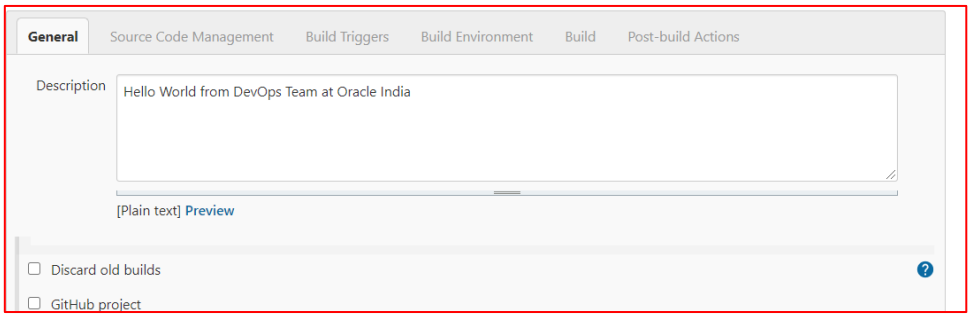



3. In the next screen, enter the name of the item you want to create. We shall use the "HelloWorld" for this demo.
   - Select Freestyle project
   - Click OK

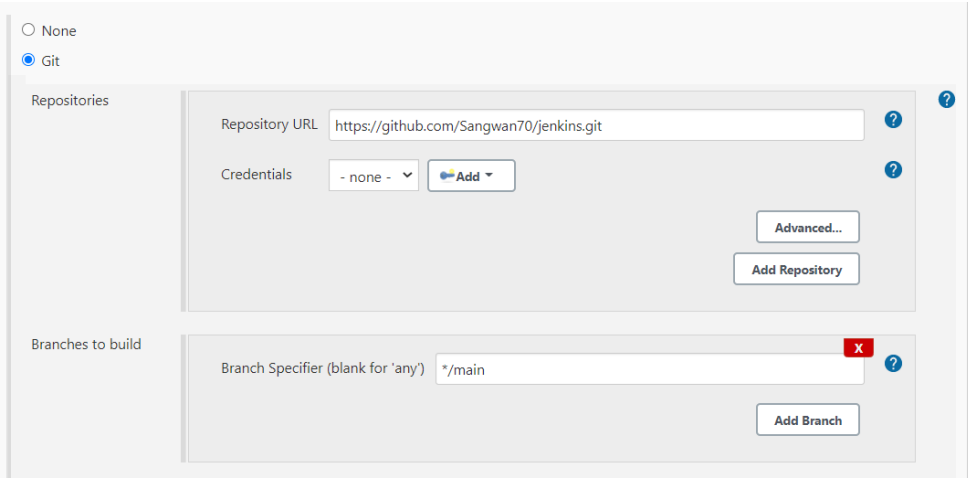



4. Enter the details of the project you want to test.

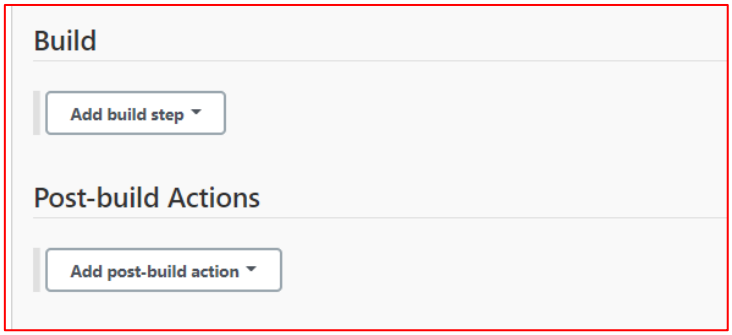


5. Under Source Code Management, Enter your repository URL. We have a test repository located at https://github.com/Sangwan70/jenkins.git
Change the Branch Specifier to "***/main***"

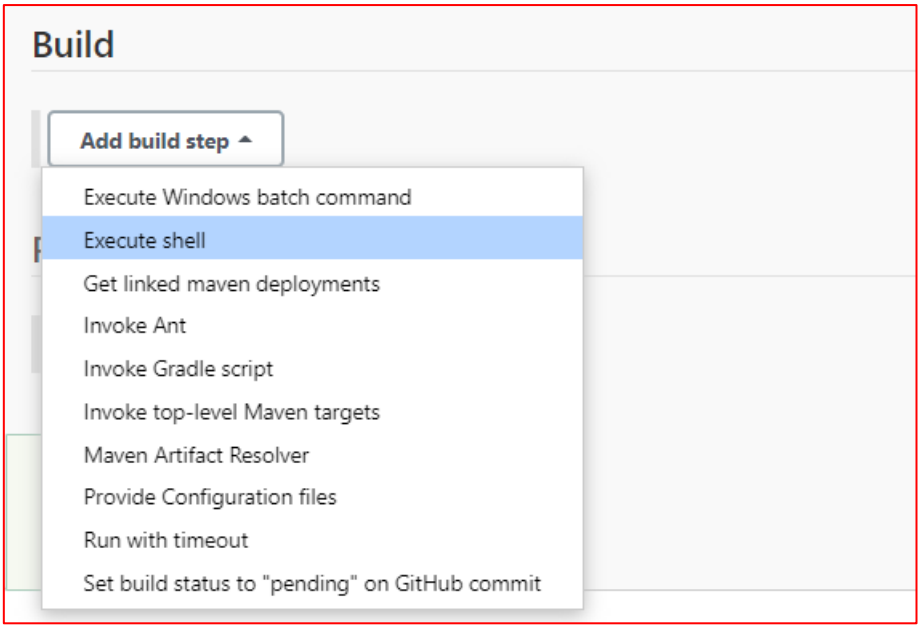



It is also possible for you to use a local repository. If your GitHub repository is private, Jenkins will first validate your login credentials with GitHub and only then pull the source code from your GitHub repository.

6. Now that you have provided all the details, it is time to build the code. Under build, Click on "Add build step"




7. Click on "Execute shell" and add the commands you want to execute during the build process.

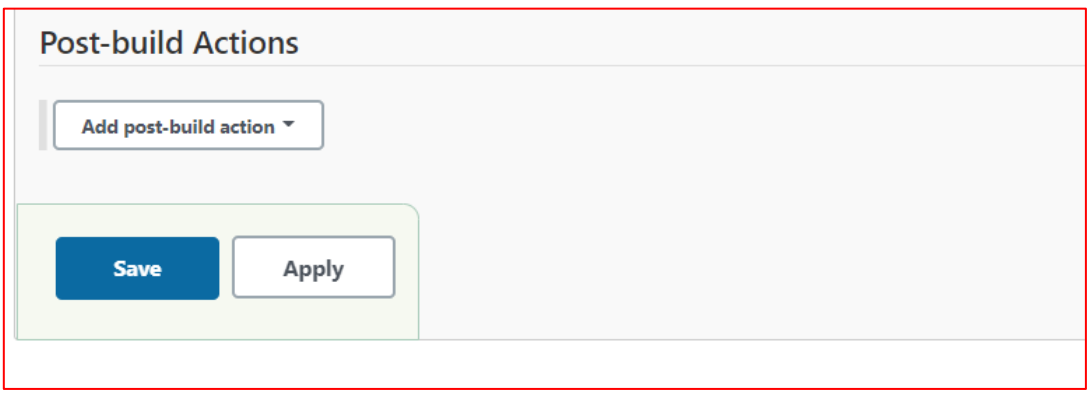



Here, I have added the java commands to compile the java code.

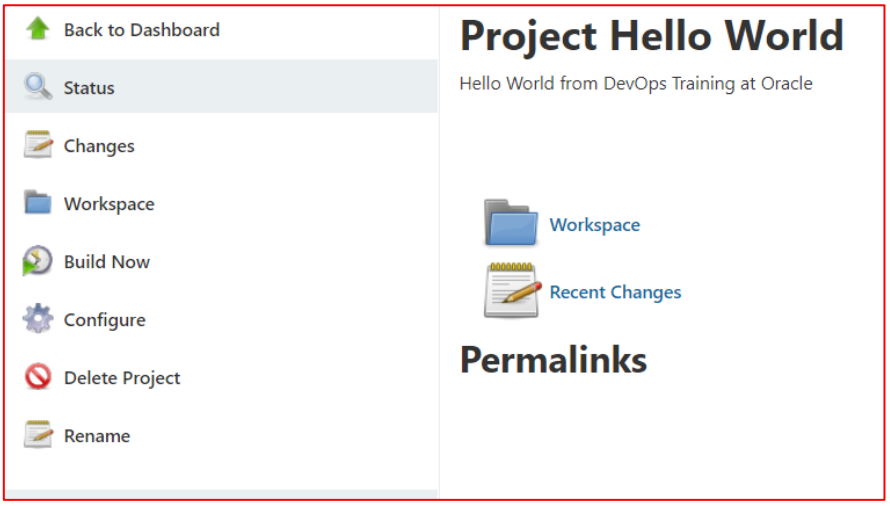
***javac HelloWorld.java***

***java HelloWorld***

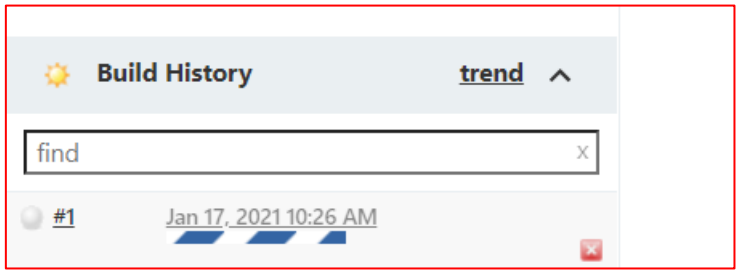

8. When you have entered all the data,
   - Click **Apply**
   - **Save** the project.



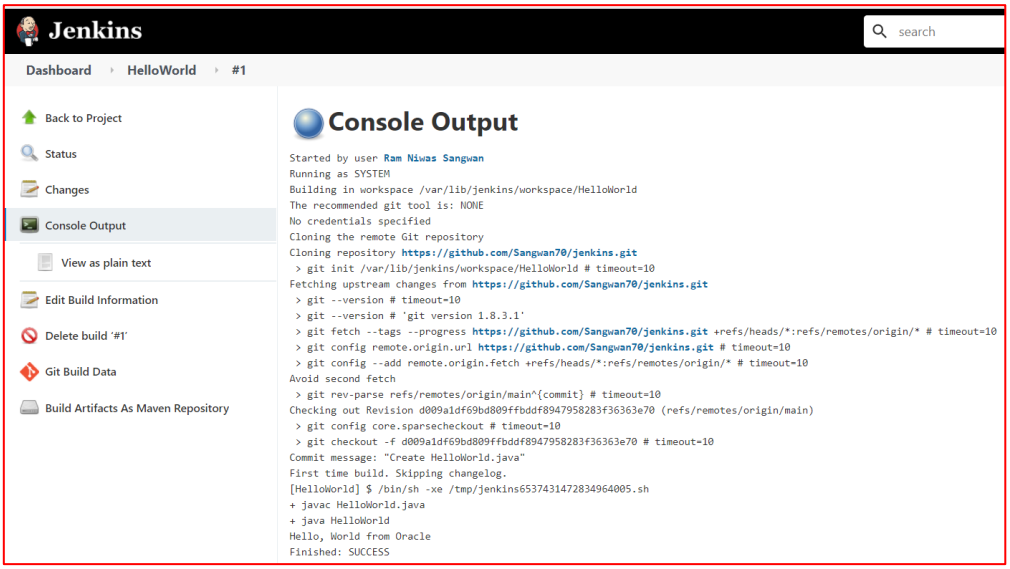
9. Now, in the main screen, click the ***Build Now*** button on the left-hand side to build the source code.




10. After clicking on Build now, you can see the status of the build you run under Build History.

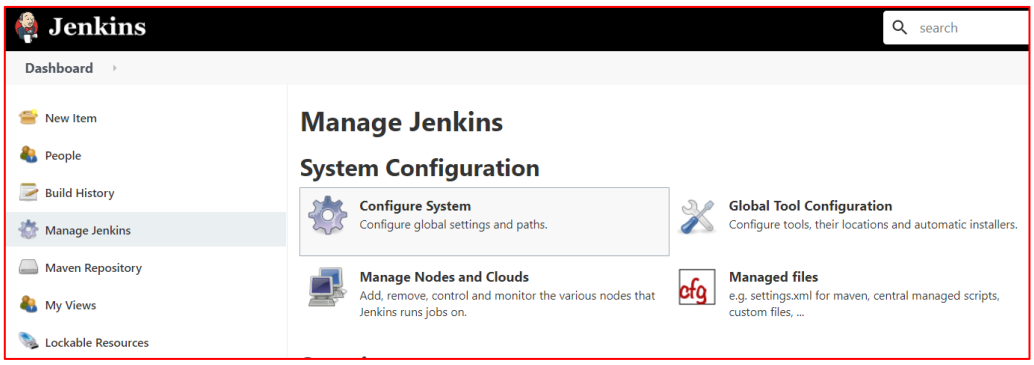



11. Click on the build number and then Click on console output to see the status of the build you run. It should show you a success message.

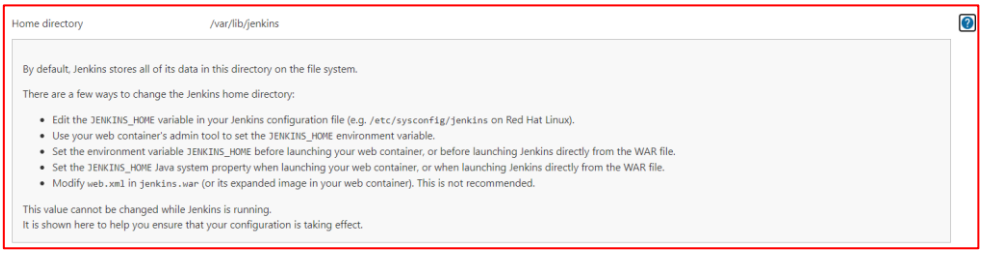



We have executed a HelloWorld program hosted on GitHub. Jenkin pulls the code from the remote repository and builds continuously at a frequency you define.

12. To configure **Environment Variables**, settings and paths, we need to go to Configure System in the Jenkins dashboard.
    a. Go to the Jenkins dashboard.
    b. Click on Manage Jenkins.
    c. Click on Configure System.
    d. Verify the Home directory available:




    e. In the Configure System page, we can define Environment variables too so that it can be used during the execution of build jobs.




13. For example, we can the ANDROID SDK path in Environment variables in to set Continuous Integration for Android Apps.