ASSIGNMENT 7 DevOps

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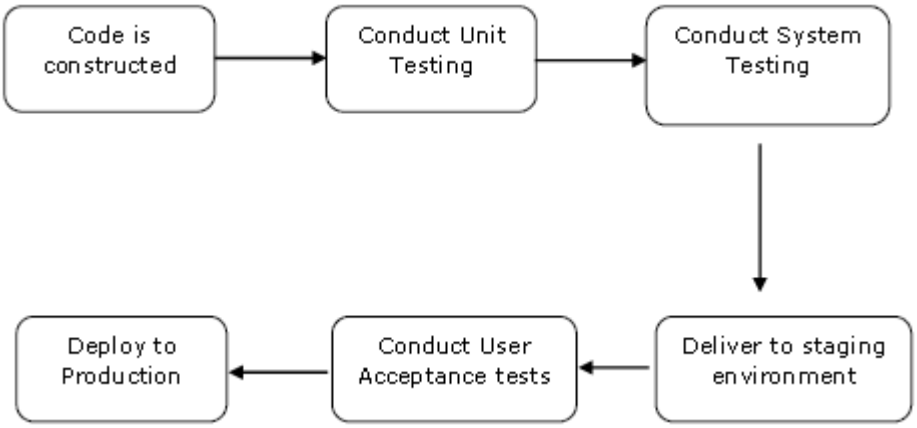
Use Jenkins “Deploy to container” plugin and "Build pipeline" plugin to implement continuous deployment and delivery of a project

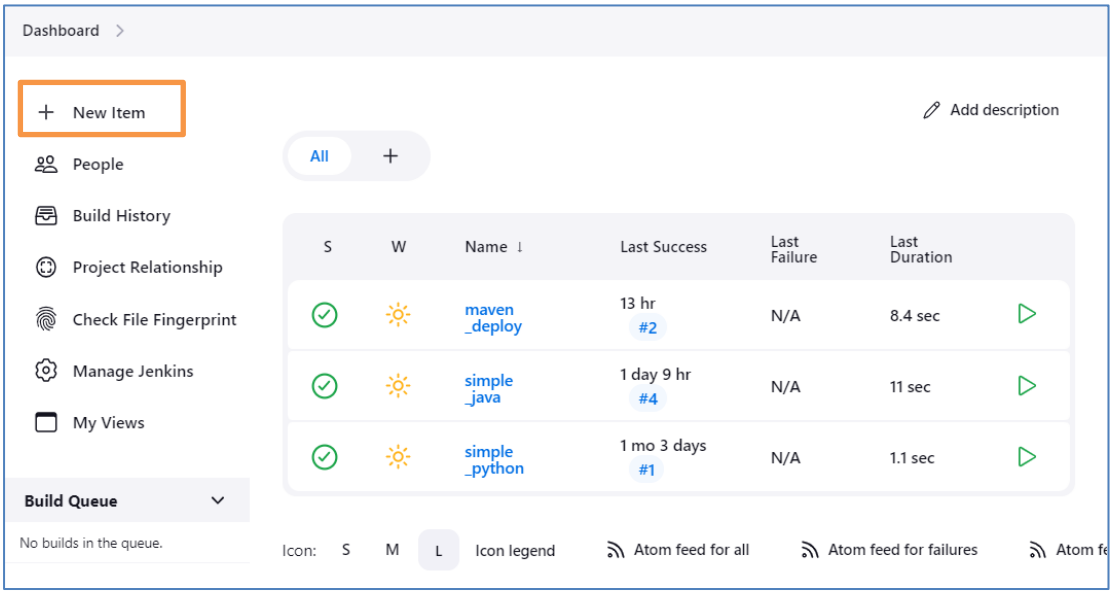
Pre-requisites:Jenkisn

Jenkins is used in providing good support for continuous deployment and delivery. The flow of a software development till the deployment is shown below:

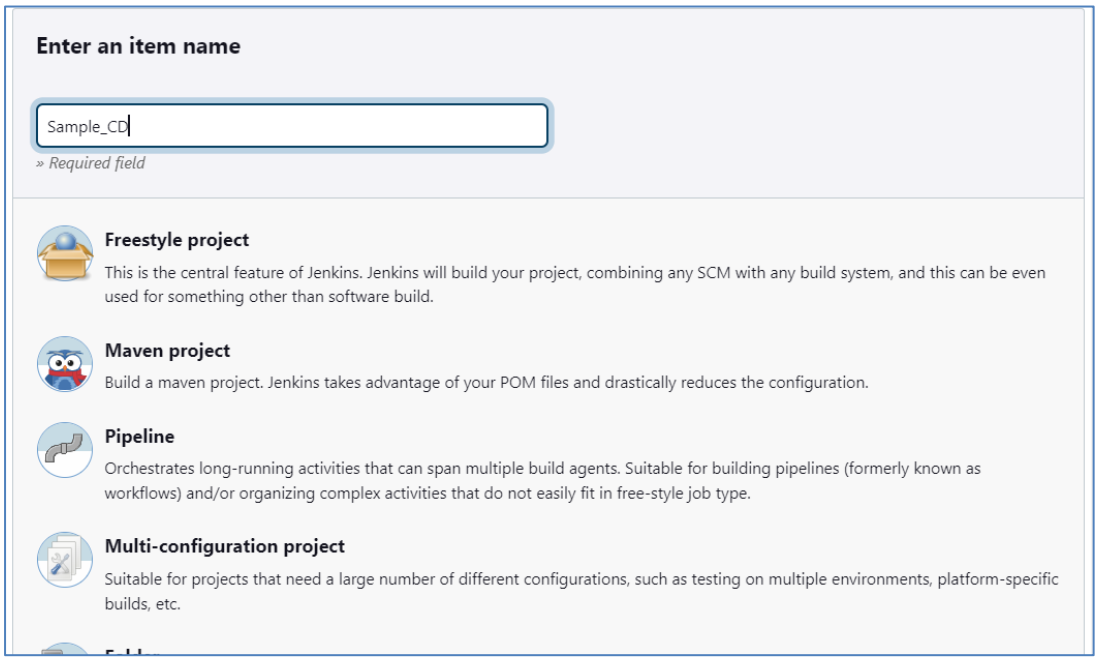


The main part of continuous deployment to make sure that the above entire process is automated. Jenkins provides various plugins for all these things. One of them is "**Deploy to container**" plugin, which was seen in earlier sections.

Step 1: Go to the Jenkins Dashboard and select **New Item**.



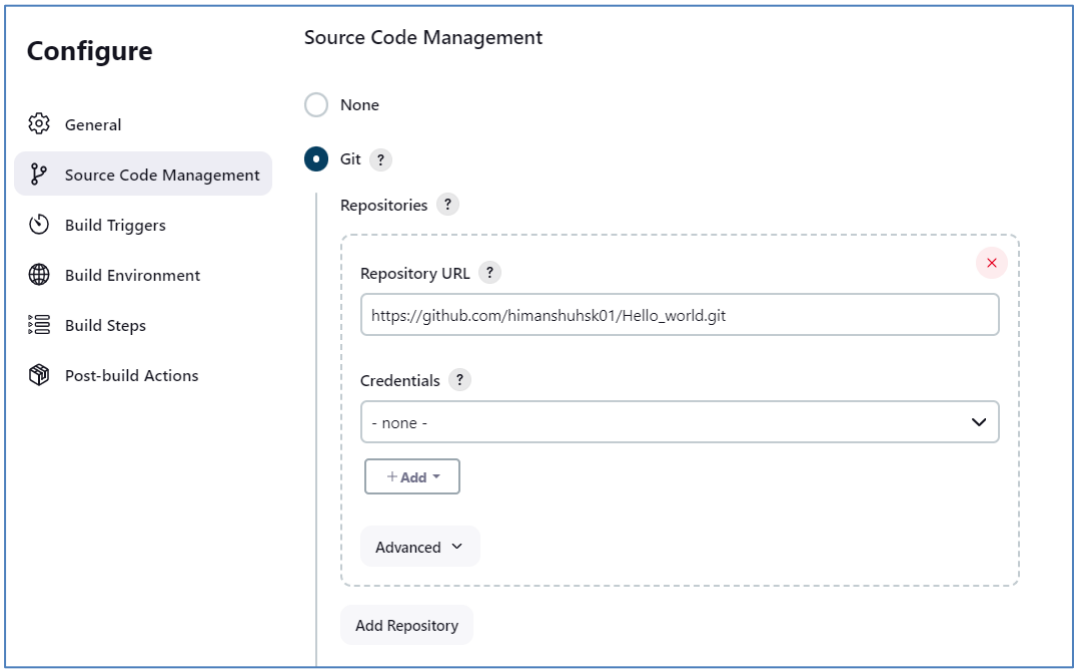
Step 2: Give the Item name and choose **Freestyle project** option. Here I have given the item name "**Sample_CD**". Click on OK button.



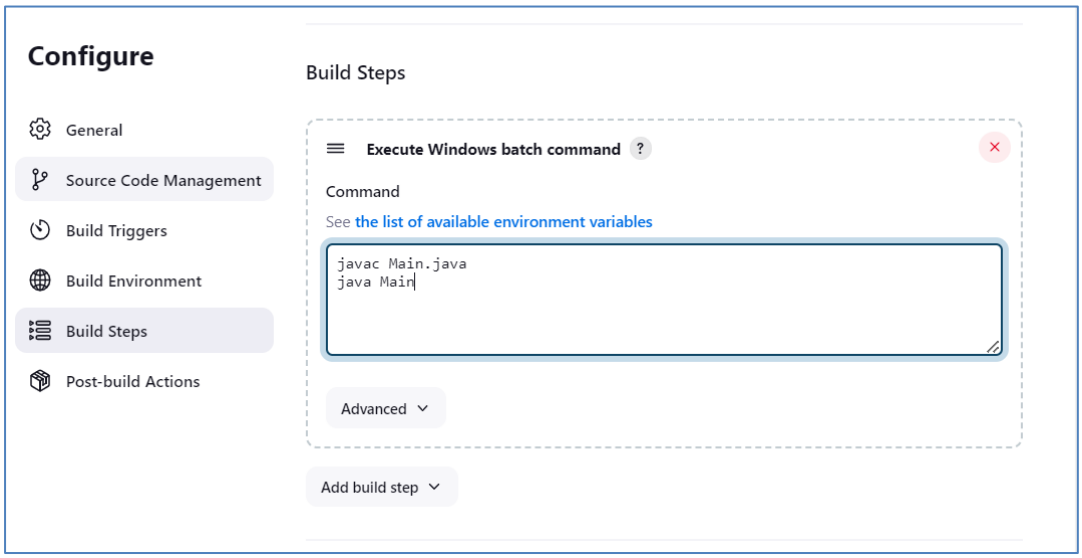
Step 3: In this example, we are keeping it simple and just using to print HelloWorld.

Select the Git option and enter the GitHub repository of your program in the **Repository URL** section.(click)

note:your branch name should to be master because jenkins use it as default

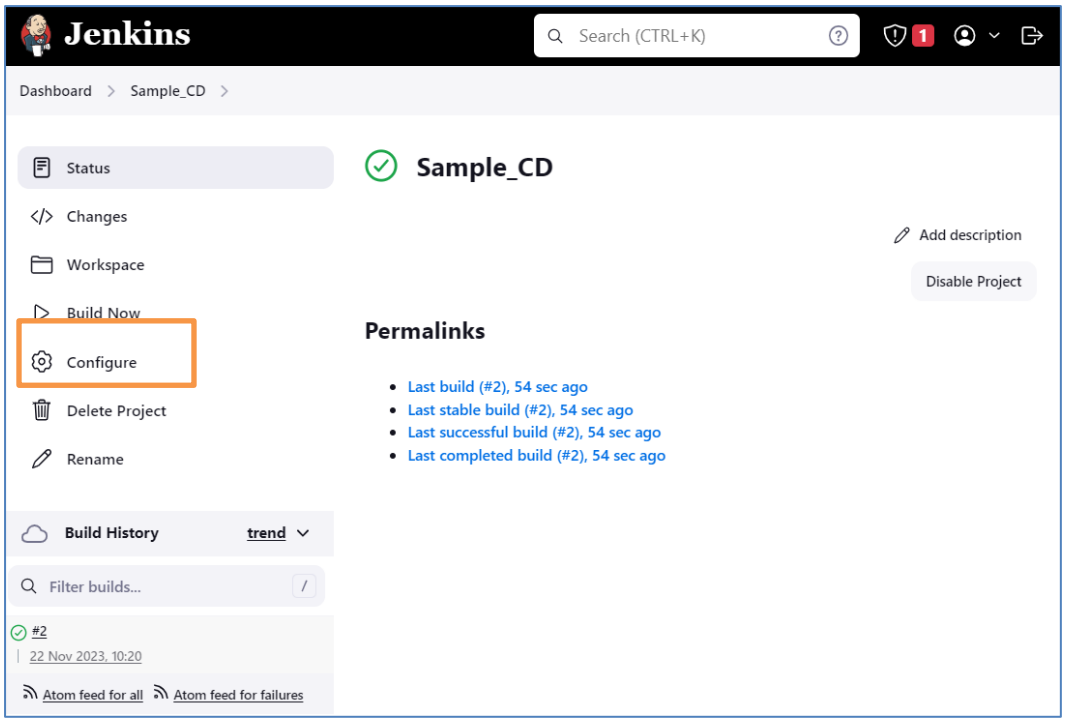


Step 4: Select the **Execute Windows batch command** option from the **add build step** button and give the command to run your java program.



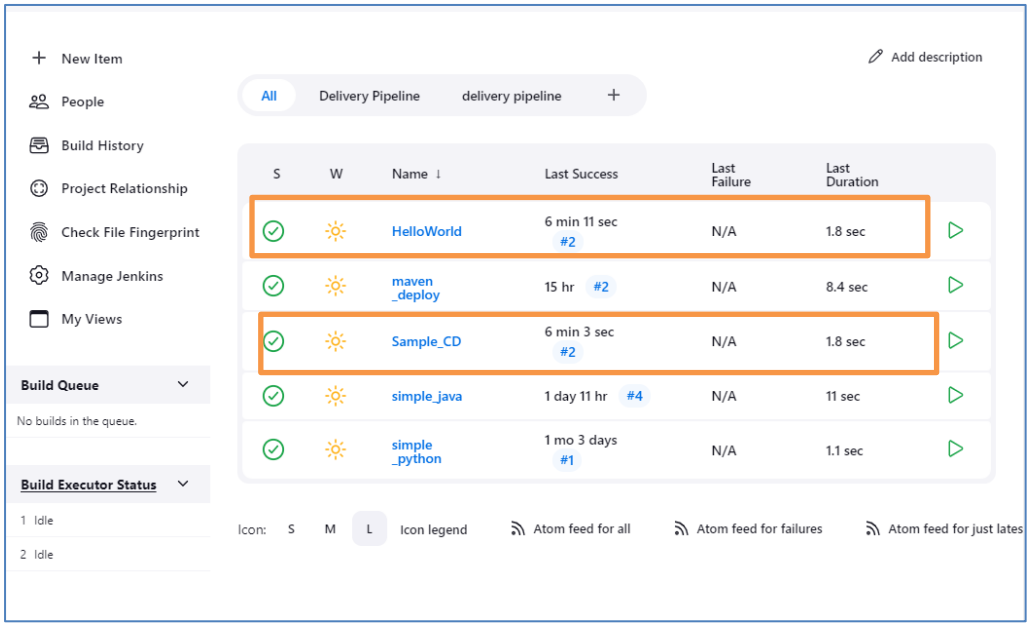
Click on **Apply** then **Save** button.

Step 5: So our project is now created. You can check a build to see if the build is successfully created or not. To check a build, click on the **Build Now** option

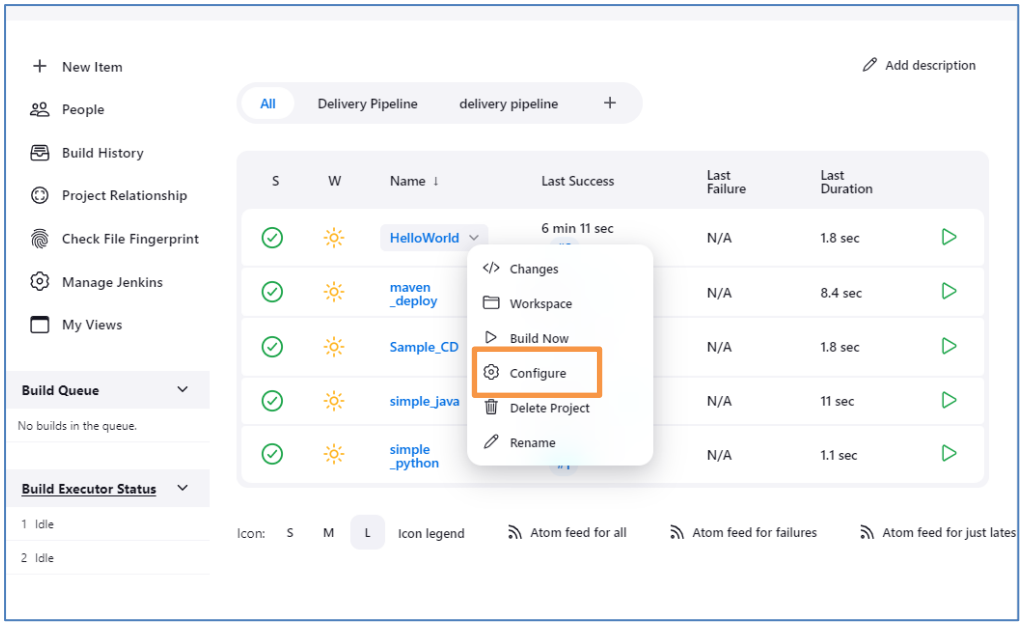


Just like this ,Create a one more free style Project name **HelloWorld** of same github url(click)

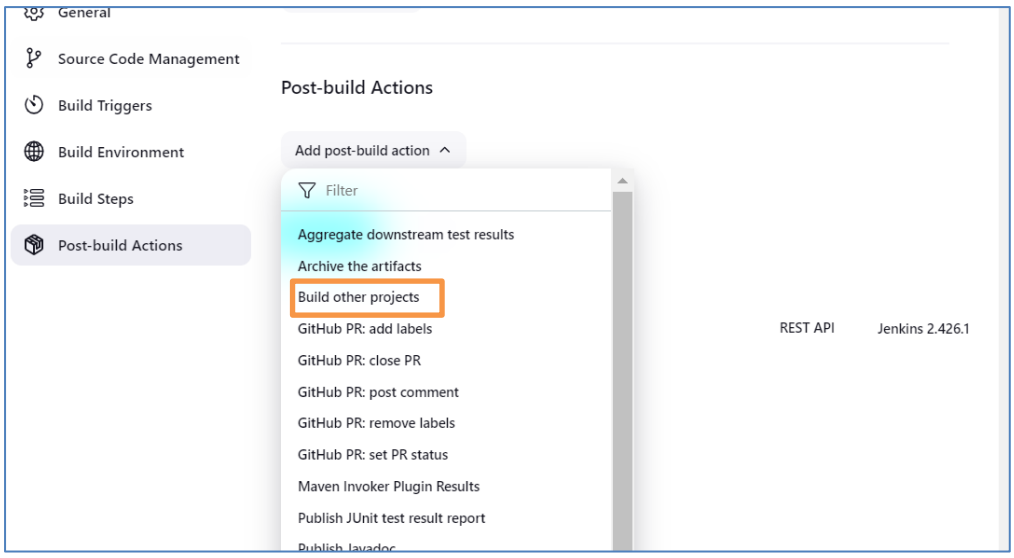
Now you can see my both Project HelloWorld and Sample_CD



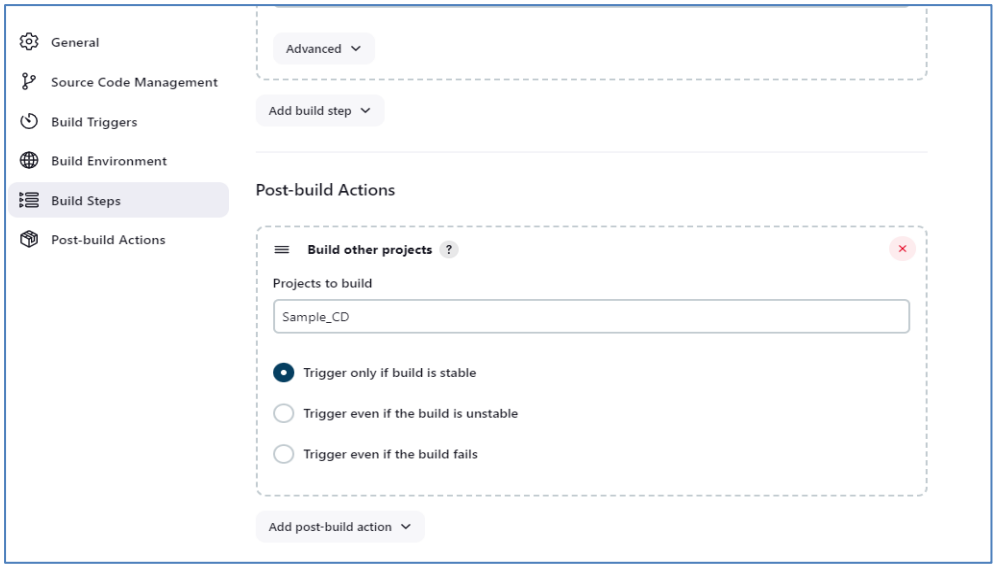
Step 6: Now, go to your previously created **Helloworld** project and click on the **Configure** option.



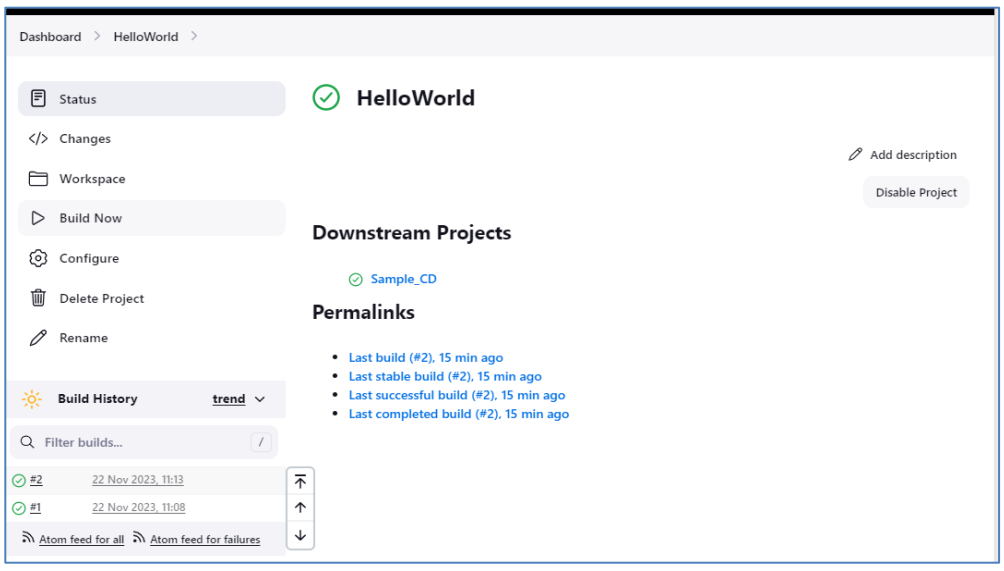
Step 7: In the Project configuration, select the **Add post-build** action and choose **Build other projects** option.



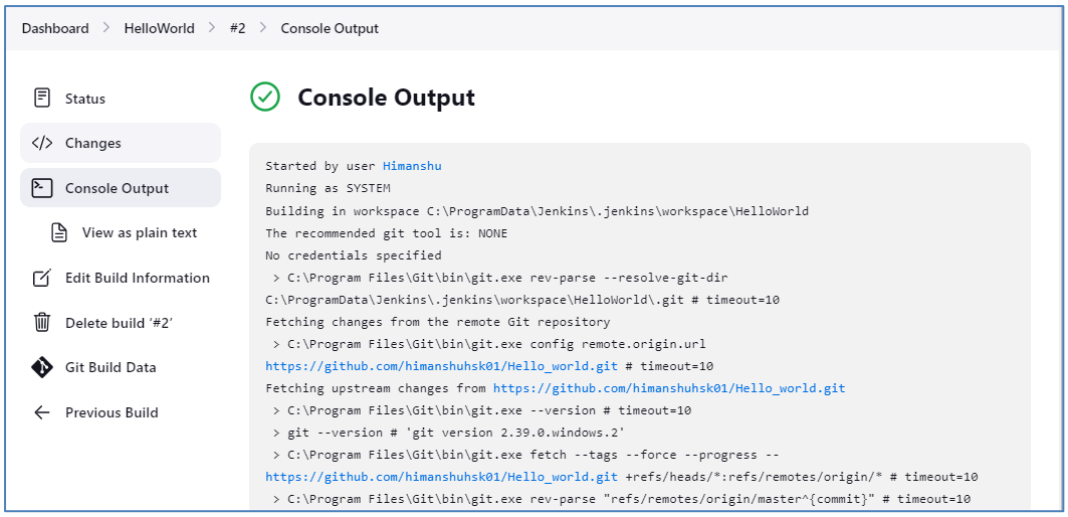
Step 8: In the **Projects to build** option, enter the "SAMPLE_CD" as the project name to build. You can leave the other option as the default. Click on **Apply** then the **Save** button.



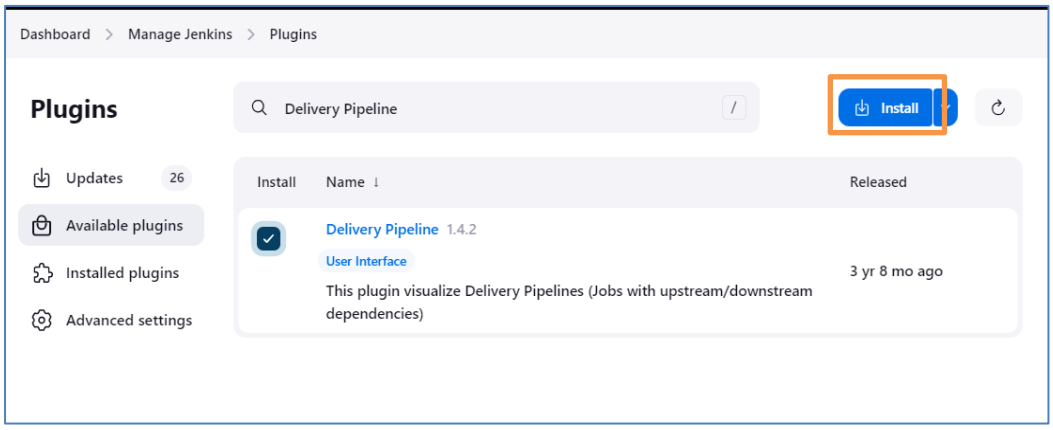
Step 9: Now, build the HelloWorld project. To do that, click on the **Build Now** option.



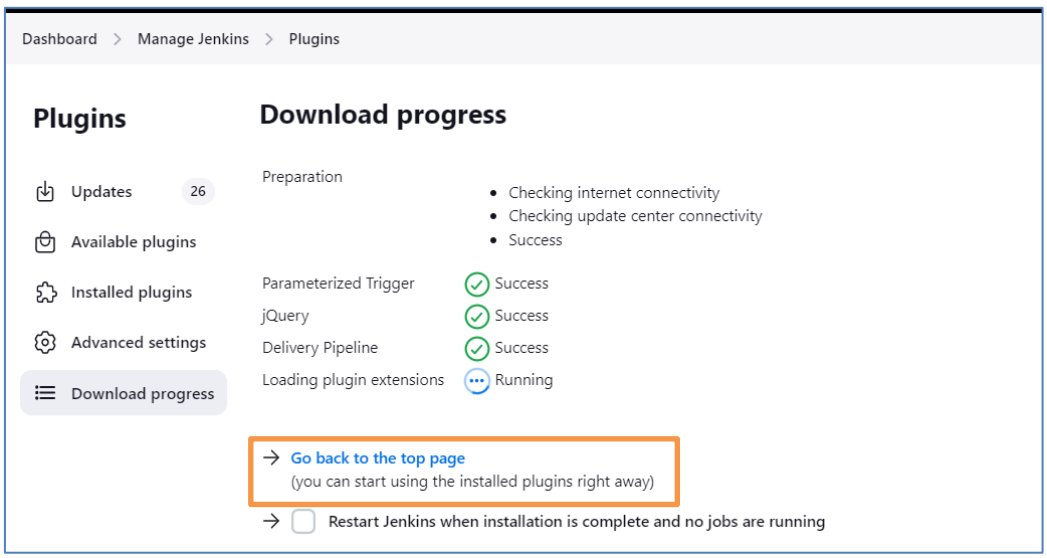
Step 10: Now, if you see the Console output, you will also see that after the **HelloWorld** project is successfully built, the build of the demo project will also happen.



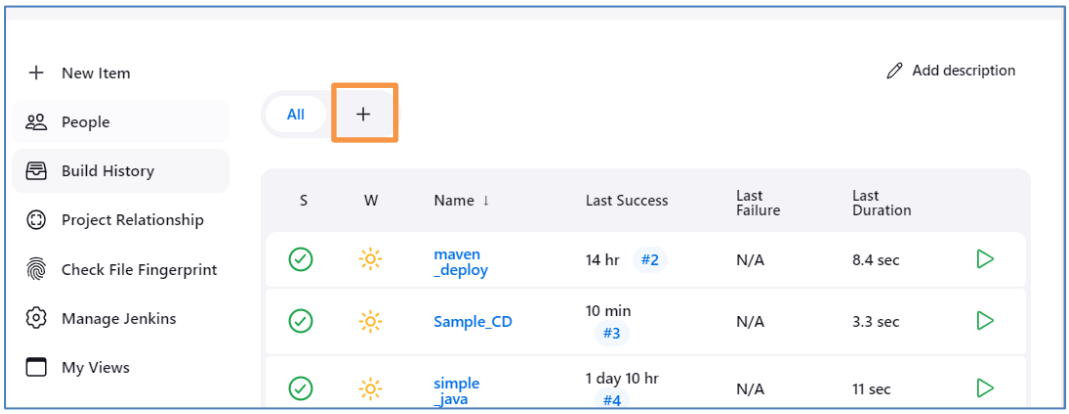
Step 11: Let's now install the **Delivery pipeline plugin**. Go to DashBoard >Manage Jenkins>plugins and install the "delivery Plugin".



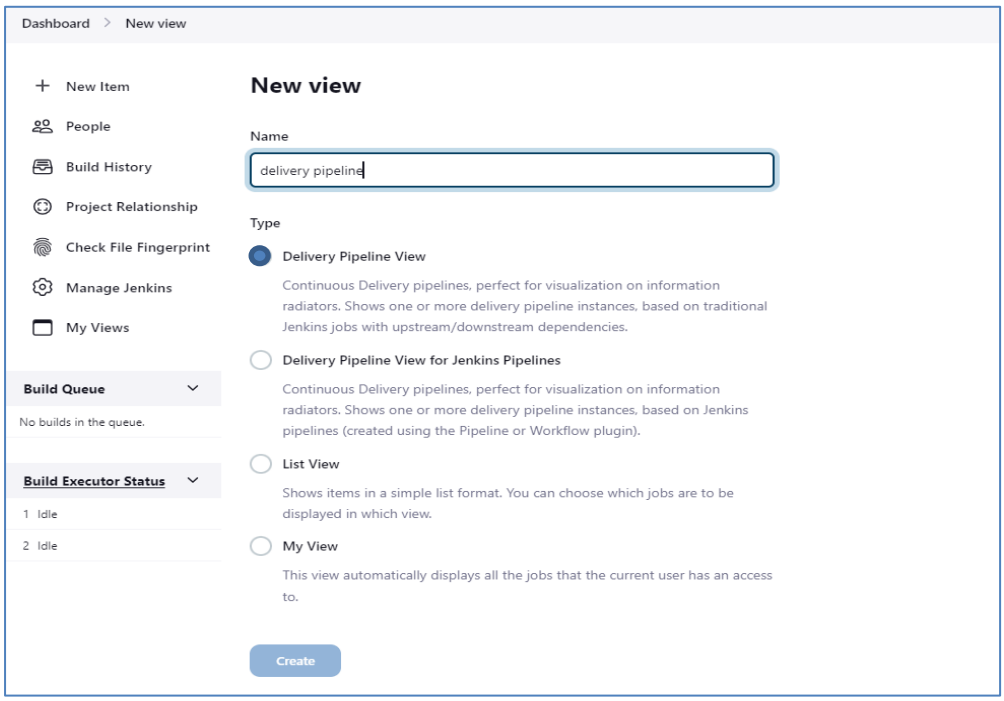
After successful installation of plugins, click on **Go back to the top page** link



Step 12: To see the Delivery Pipeline in action, click on + symbol in the tab next to the **All** tab on the Jenkins Dashboard screen.

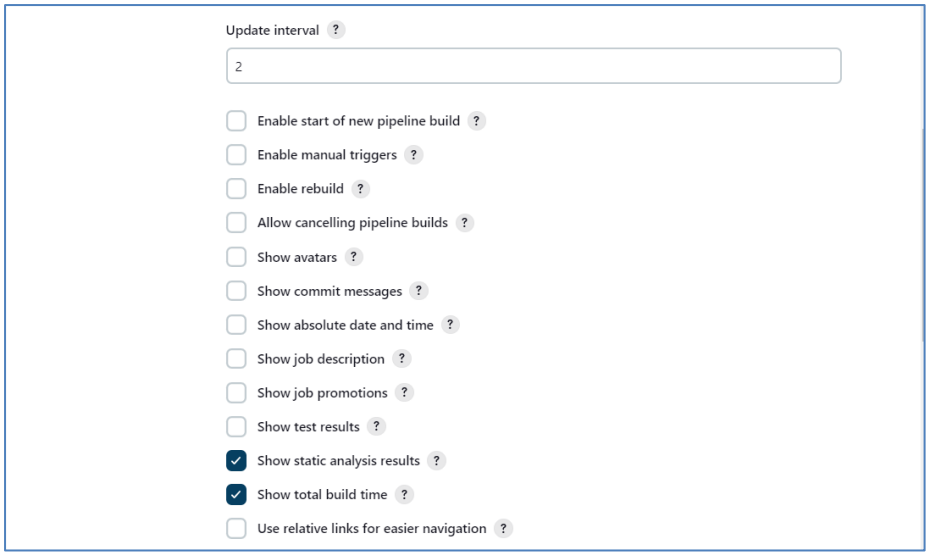


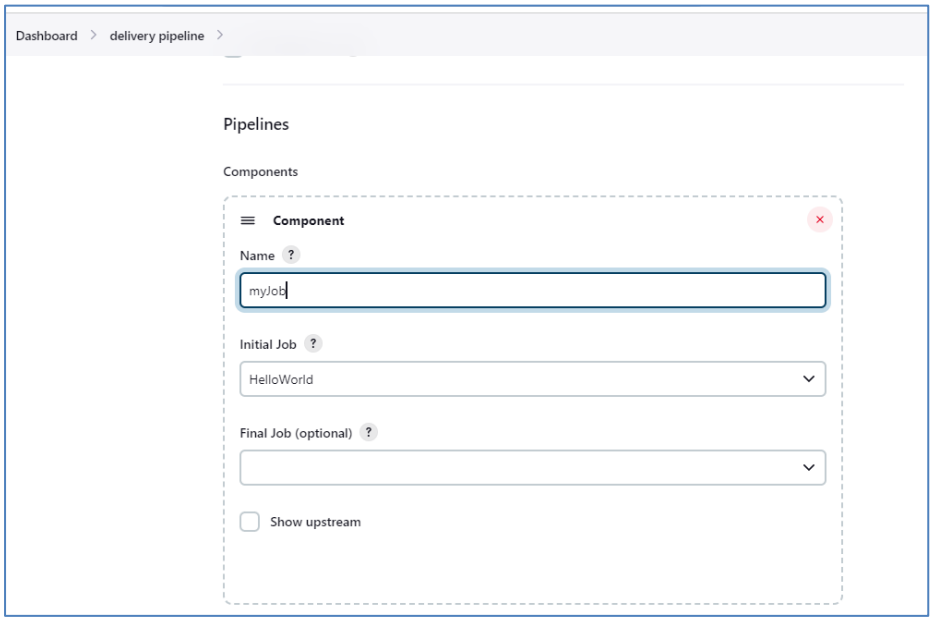
Step 13: Give the **View name** and select **Delivery Pipeline View**. Click on create button.



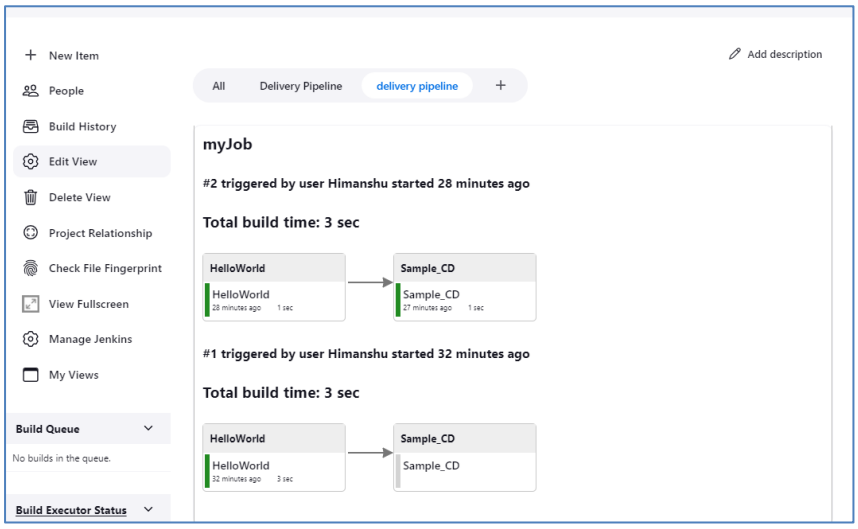
Step 14: In the next page, leave the default options. Scroll down and change the following settings:

- Make sure "Show static analysis results" option is checked.
- Make sure the option "Show total build time" is checked.
- In the Pipelines section for the Initial job enter the Helloworld project as the first job which should build.
- Give any name for the Pipeline
- Click the Apply and OK button.





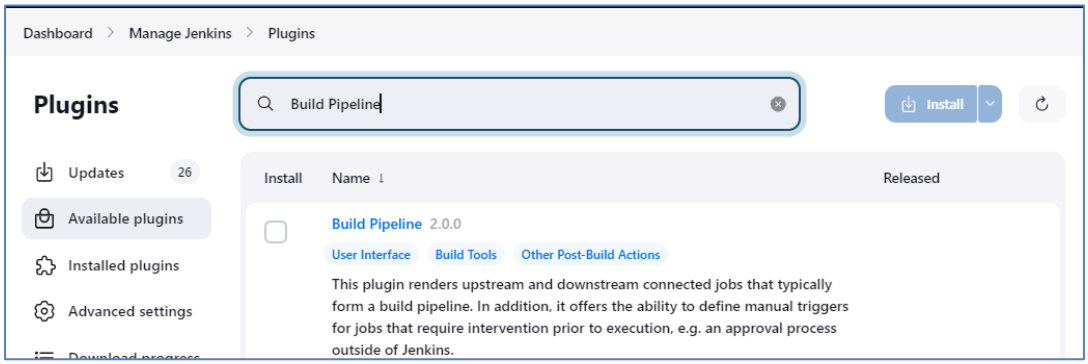
Now you can view the delivery Pipeline,and **project delivery is successful**



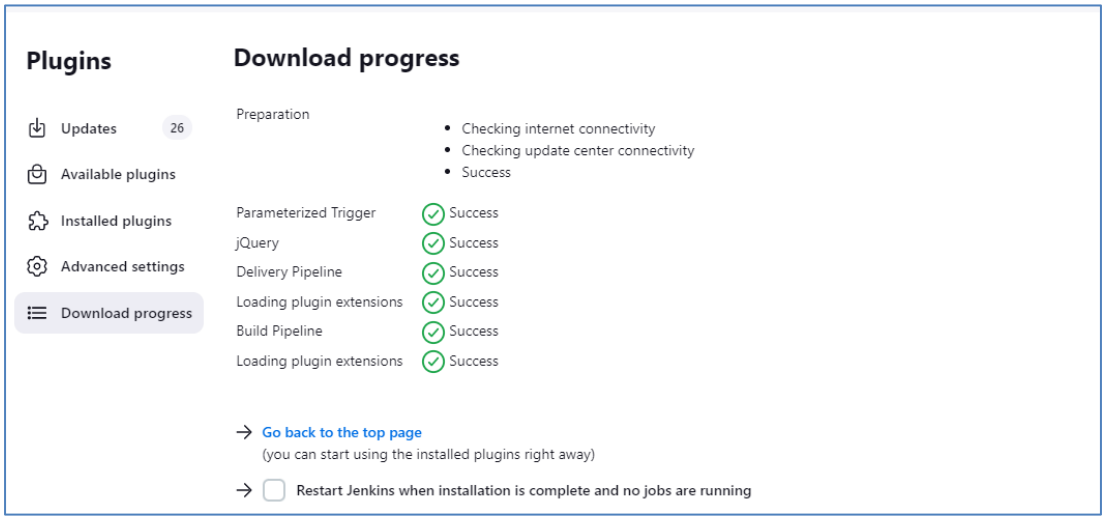
Build Pipeline Plugin

Another important plugin of Jenkins is the "**Build pipeline**" plugin. Let's take a look at this plugin:

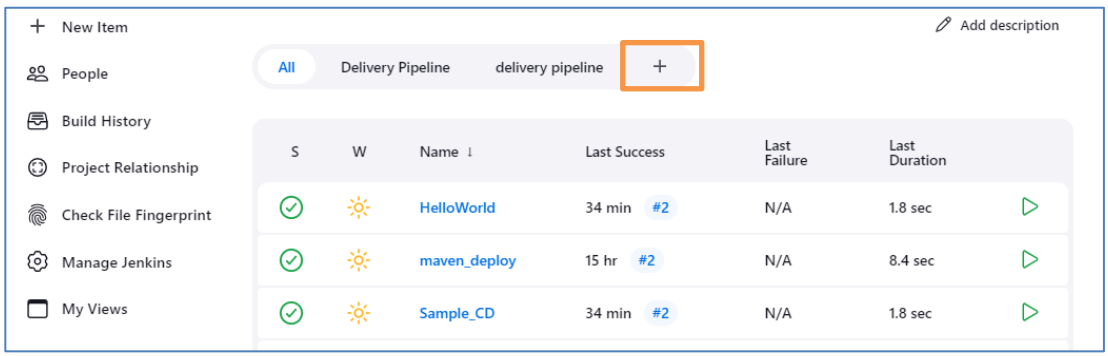
Step 1: On the Jenkins Dashboard, select **Manage Jenkins>Plugin** and install the **"Build Pipeline plugin"** under availabel plugin.



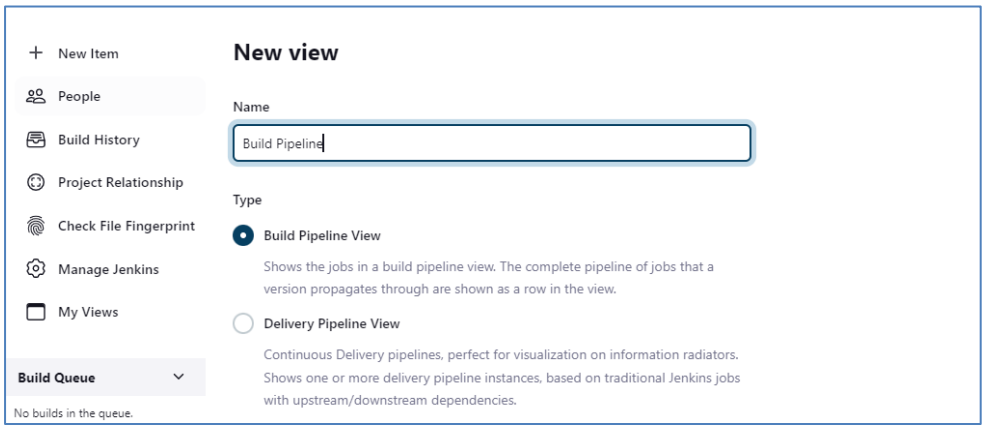
Step 2: Once the installation is completed successfully, click on **Go back to the top page** link.



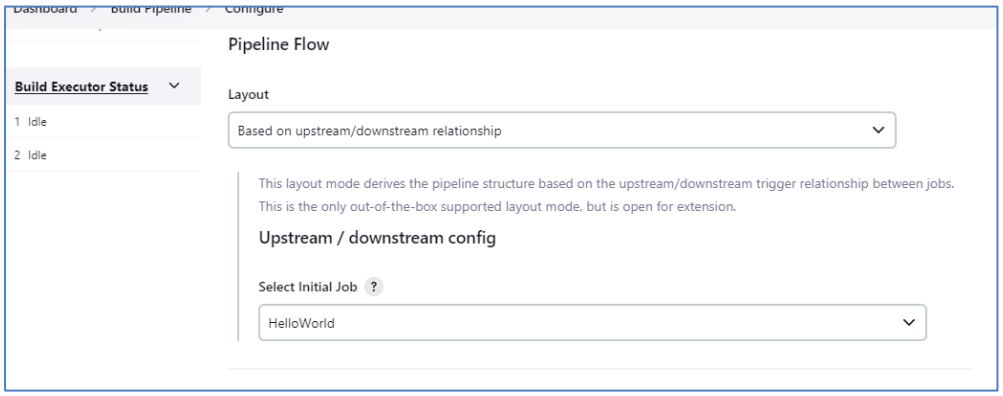
Step 3: To see the Build pipeline in action, click on the + symbol in the Tab next to the **All** tab in the Jenkins Dashboard.



Step 4: In the View name option, enter any name and choose the Build **Pipeline View** Option.



Step 7: Leave all the default option and scroll down. In the **Upstream/downstream config** section enter the name of the HelloWorld project for the select initial job option. Then click on the **OK** button.



Now you can see a view of the entire delivery pipeline, and you will be able to see the status of each project in the whole pipeline.