ADITYA COLLEGE OF ENGINEERING & TECHNOLOGY

DevOps

Jenkins

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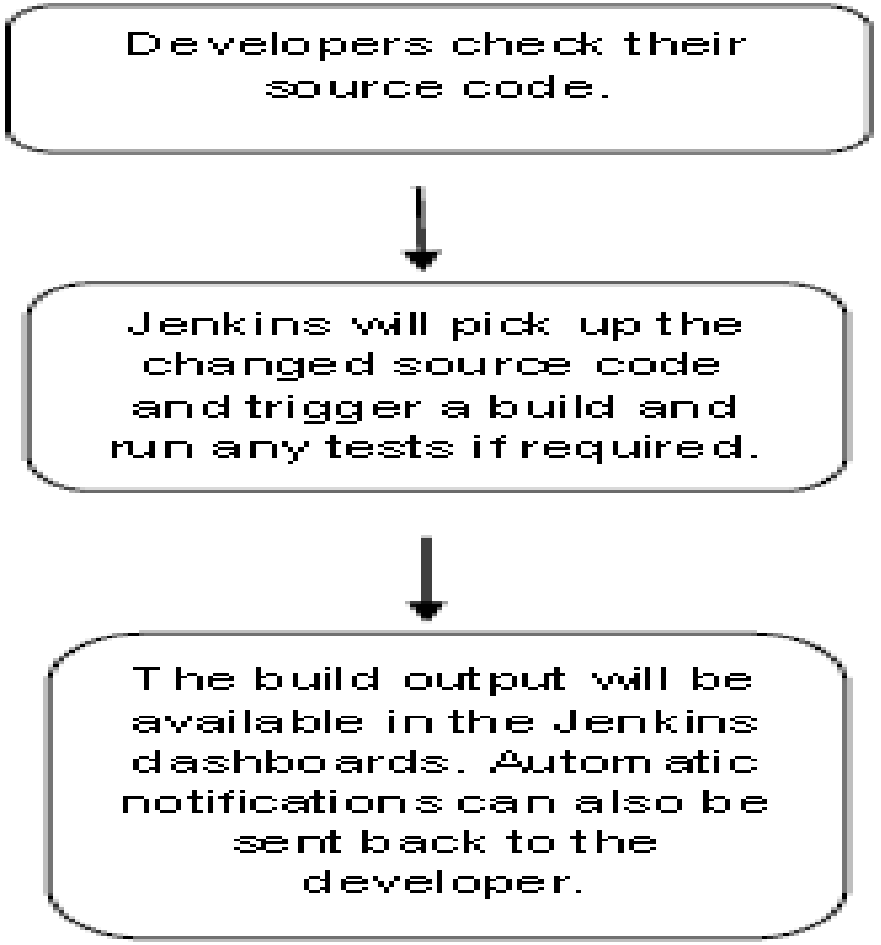
Jenkins

- Jenkins is a powerful application that allows continuous integration and continuous delivery of projects, regardless of the platform you are working on. It is a free source that can handle any kind of build or continuous integration. You can integrate Jenkins with a number of testing and deployment technologies.
- Jenkins is a software that allows **continuous integration**. Jenkins will be installed on a server where the central build will take place. The following flowchart demonstrates a very simple workflow of how Jenkins works.

Jenkins


Developers check their source code.
Jenkins will pick up the changed source code and trigger a build and run any tests if required.
The build output will be available in the Jenkins dashboards. Automatic notifications can also be sent back to the developer.

Continuous Integration

- Continuous Integration is a development practice that requires developers to integrate code into a shared repository at regular intervals. This concept was meant to remove the problem of finding later occurrence of issues in the build lifecycle. Continuous integration requires the developers to have frequent builds. The common practice is that whenever a code commit occurs, a build should be triggered.

Download Jenkins

The official website for Jenkins is https://www.jenkins.io/

Click the Long-Term Support Release tab in the download section.

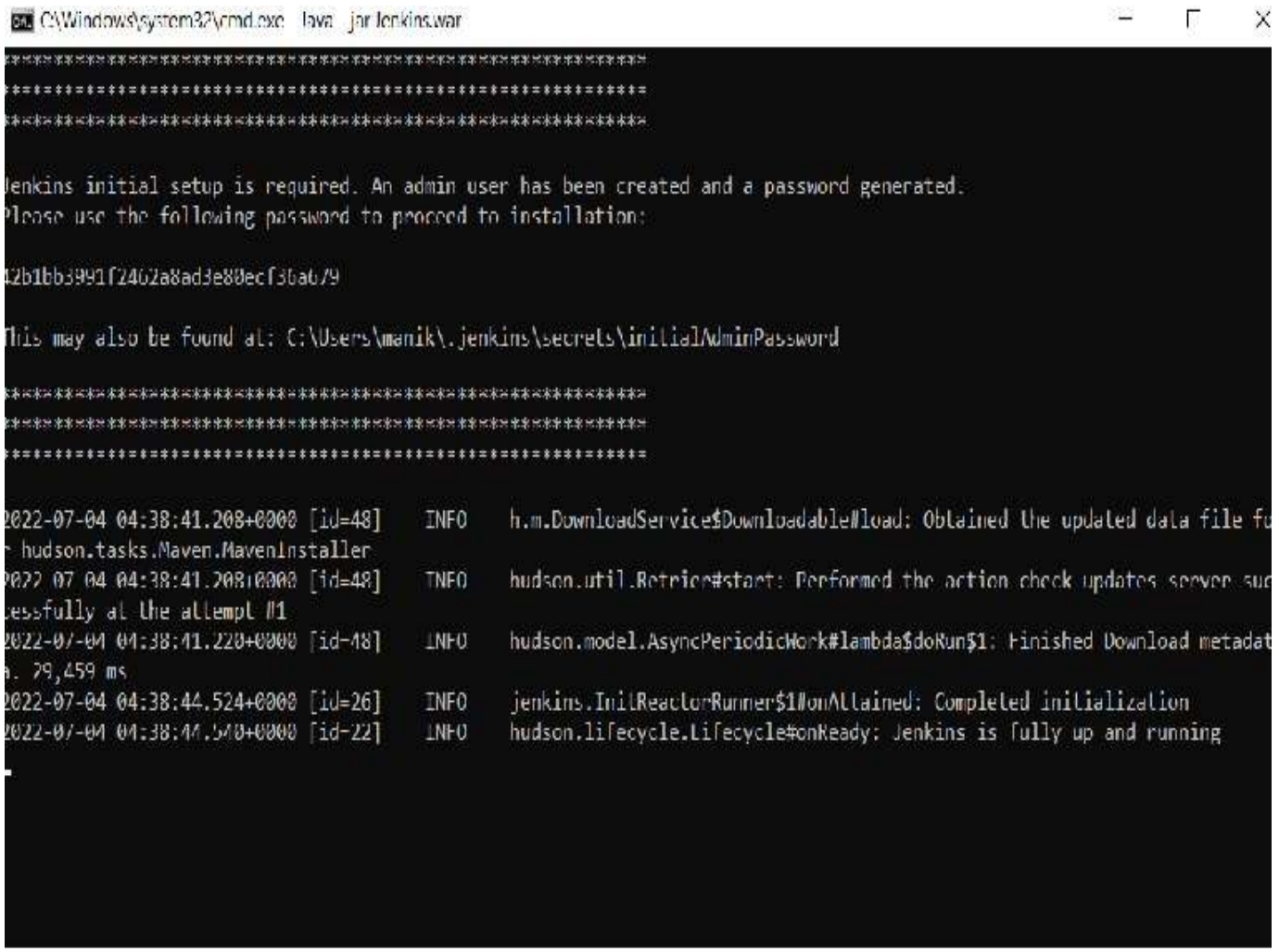
Starting Jenkins

- Open the command prompt. From the command prompt, browse to the directory where the jenkins.war file is present. Run the following command

D:\>Java –jar Jenkins.war

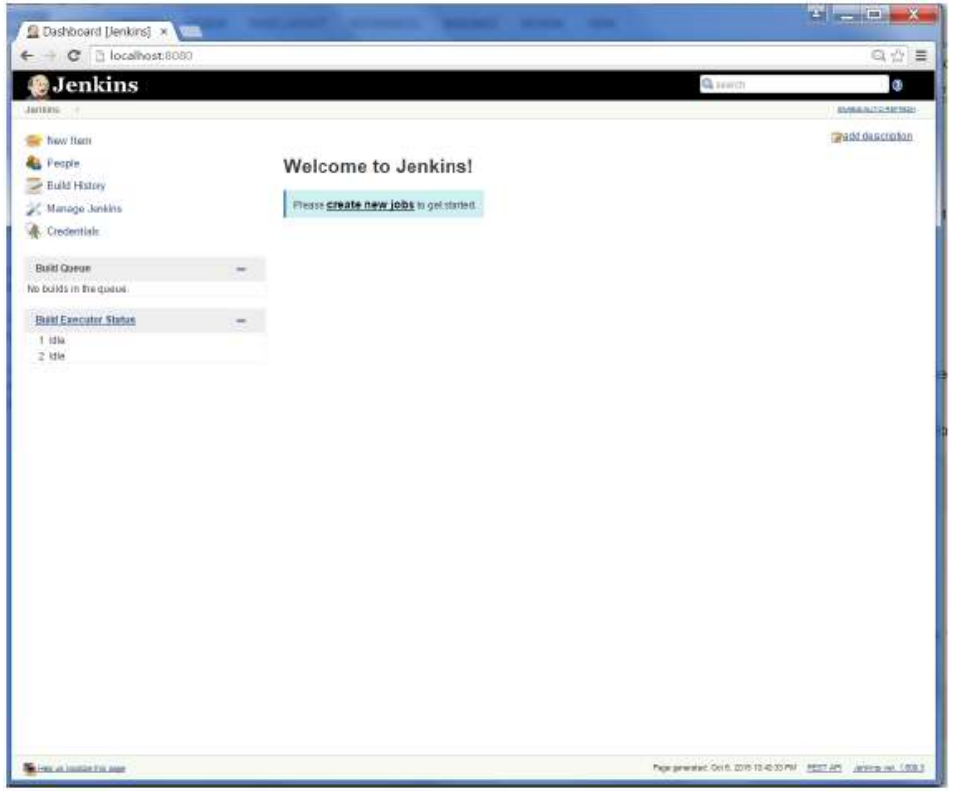
- After the command is run, various tasks will run, one of which is the extraction of the war file which is done by an embedded webserver called winstone.
- Once the processing is complete without major errors, the following line will come in the output of the command prompt.

INFO: Jenkins is fully up and running


C:\Windows\system32\cmd.exe - java -jar jenkins.war
Jenkins initial setup is required. An admin user has been created and a password generated.
Please use the following password to proceed to installation:
42b1bb3991f2462a8ad3e80ecf30a079
This may also be found at: C:\Users\manik\.jenkins\secrets\initialAdminPassword
2022-07-04 04:38:41.208+0000 [id=48] INFO h.m.DownloadService$DownloadableLoad: Obtained the updated data file fo
hudson.tasks.Maven.MavenInstaller
2022-07-04 04:38:41.208+0000 [id=48] INFO hudson.util.Retrier#start: Performed the action check updates server suc
cessfully at the attempt #1
2022-07-04 04:38:41.220+0000 [id=48] INFO hudson.model.AsyncPeriodicWork#lambda$doRun$1: Finished Download metadat
a. 29,459 ms
2022-07-04 04:38:44.524+0000 [id=26] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
2022-07-04 04:38:44.570+0000 [id=22] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running

Accessing Jenkins

- Once Jenkins is up and running, one can access Jenkins from the link – **http://localhost:8080**
- This link will bring up the Jenkins dashboard.



Tomcat

The official website for tomcat is https://tomcat.apache.org/

Link: https://tomcat.apache.org/download-90.cgi

https://tomcat.apache.org/download-90.cgi

Download the 64-bit Windows zip file

Then unzip the contents of the downloaded zip file

Jenkins and Tomcat Setup

- Copy the Jenkis.war file which was downloaded from the previous section and copy it to the webapps folder in the tomcat folder.
- Now open the command prompt. From the command prompt, browse to the directory where the tomcat7 folder is location. Browse to the bin directory in this folder and run the start.bat file

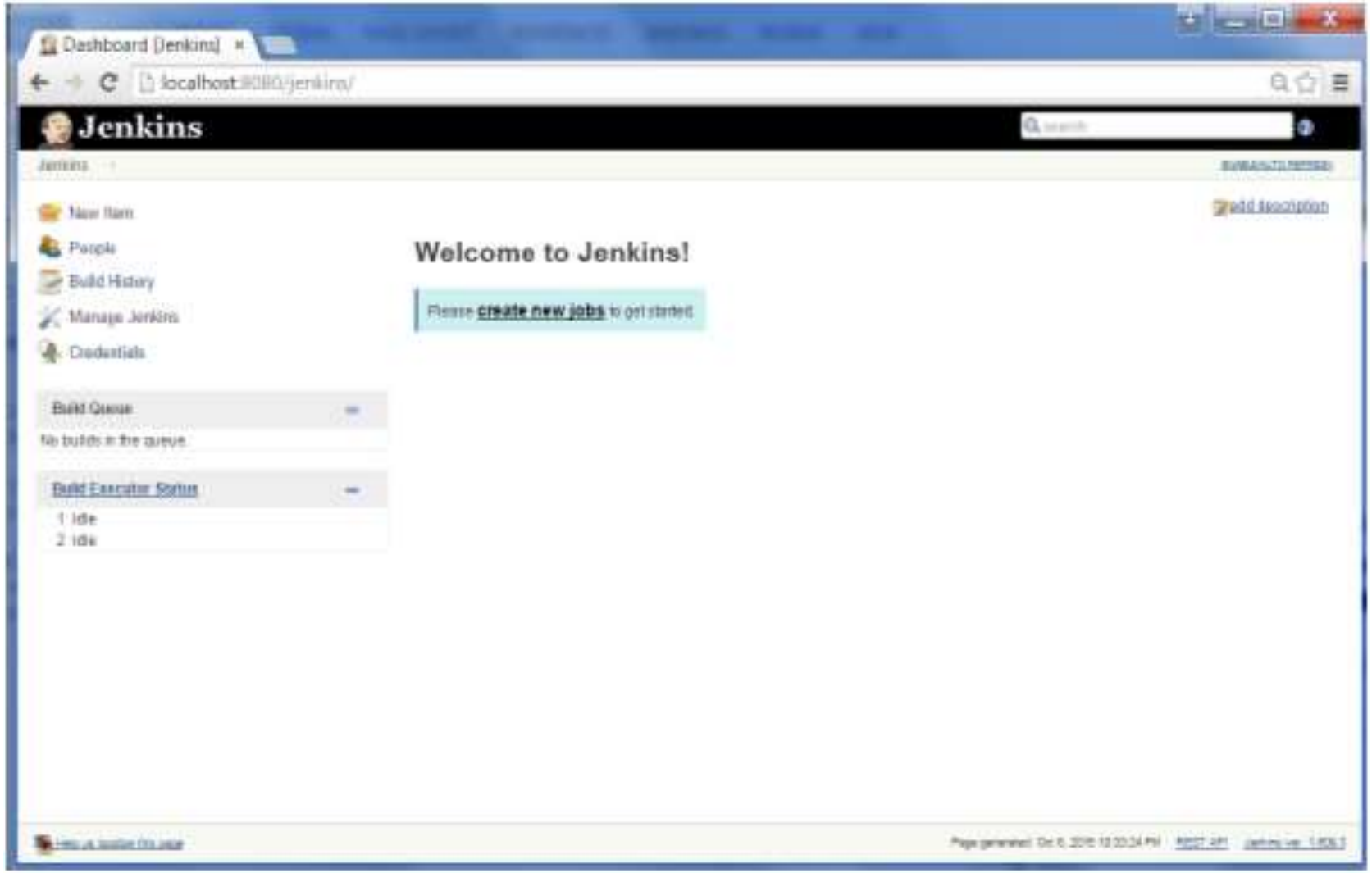
E:\Apps\tomcat7\bin>startup.bat

- Once the processing is complete without major errors, the following line will come in the output of the command prompt.

INFO: Server startup in 1302 ms

- Open the browser and go to the link – **http://localhost:8080/jenkins**. Jenkins will be up and running on tomcat.

Jenkins


Dashboard [Jenkins]
Jenkins
New Item
People
Build History
Manage Jenkins
Credentials
Build Queue
No builds in the queue.
Build Executor Status
1 Idle
2 Idle
Welcome to Jenkins!
Please create new jobs to get started

Jenkins

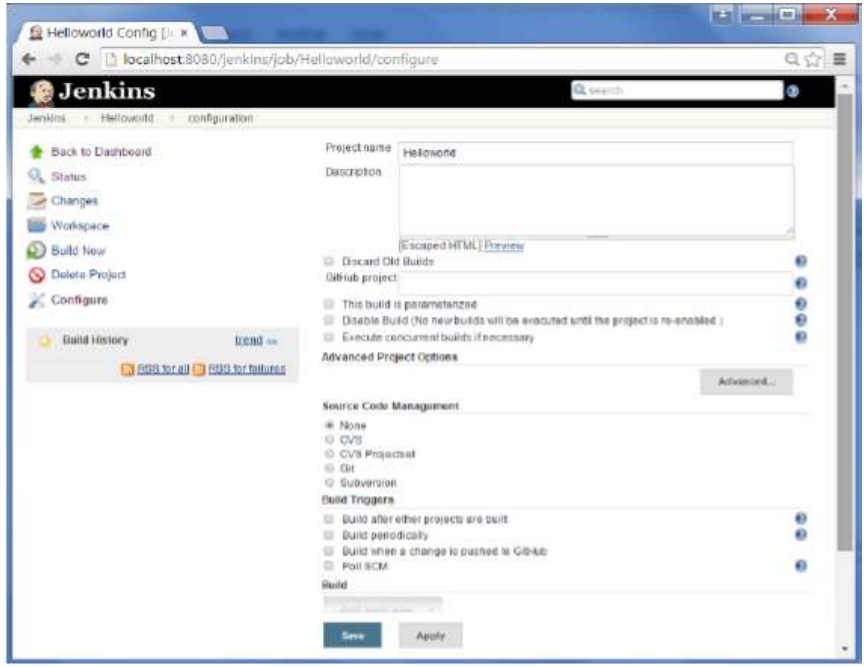
•we will create a job in Jenkins which picks up a simple HelloWorld application, builds and runs the java program.

•Go to the Jenkins dashboard and Click on New Item

Jenkins

Step 2:In the next screen, enter the Item name, in this case we have named it Helloworld. Choose the 'Freestyle project option'

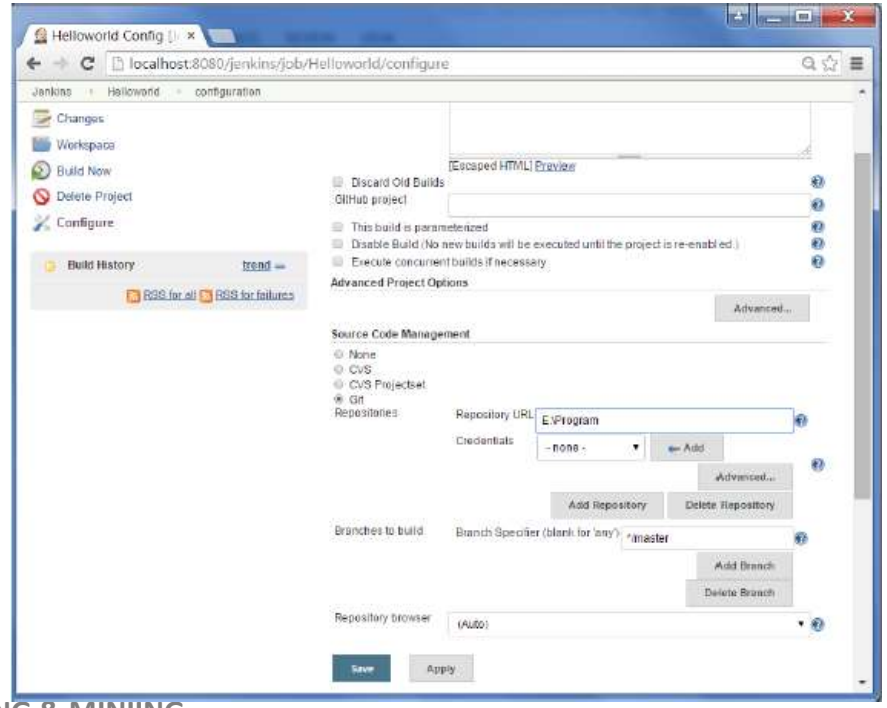
Step 3 – The following screen will come up in which you can specify the details of the job.

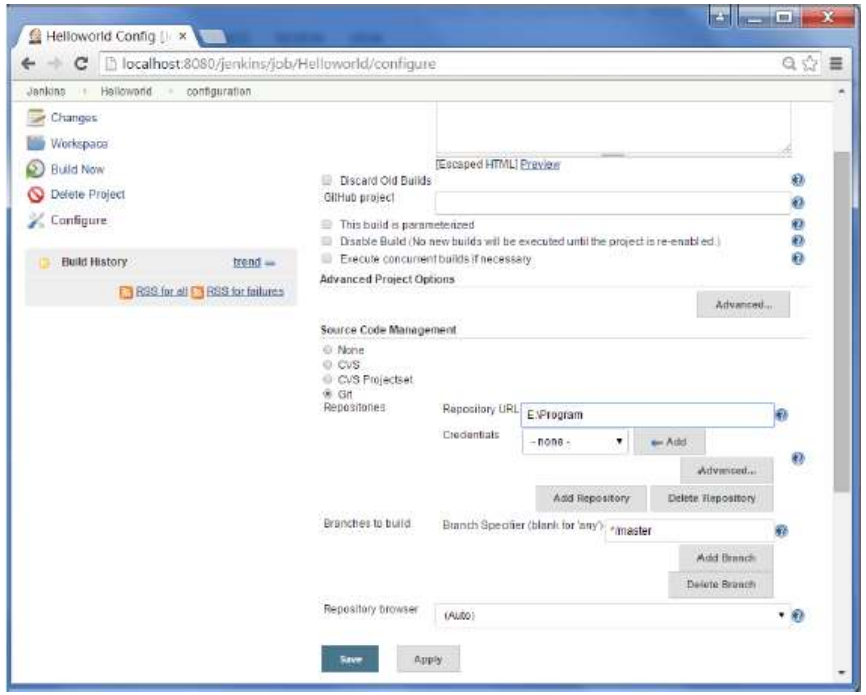


Jenkins

- **Step 4** – We need to specify the location of files which need to be built. In this example, we will assume that a local git repository(E:\Program) has been setup which contains a 'HelloWorld.java' file. Hence scroll down and click on the Git option and enter the URL of the local git repository.

Note – If you repository if hosted on Github, you can also enter the url of that repository here. In addition to this, you would need to click on the Add button for the credentials to add a user name and password to the github repository so that the code can be picked up from the remote repository.





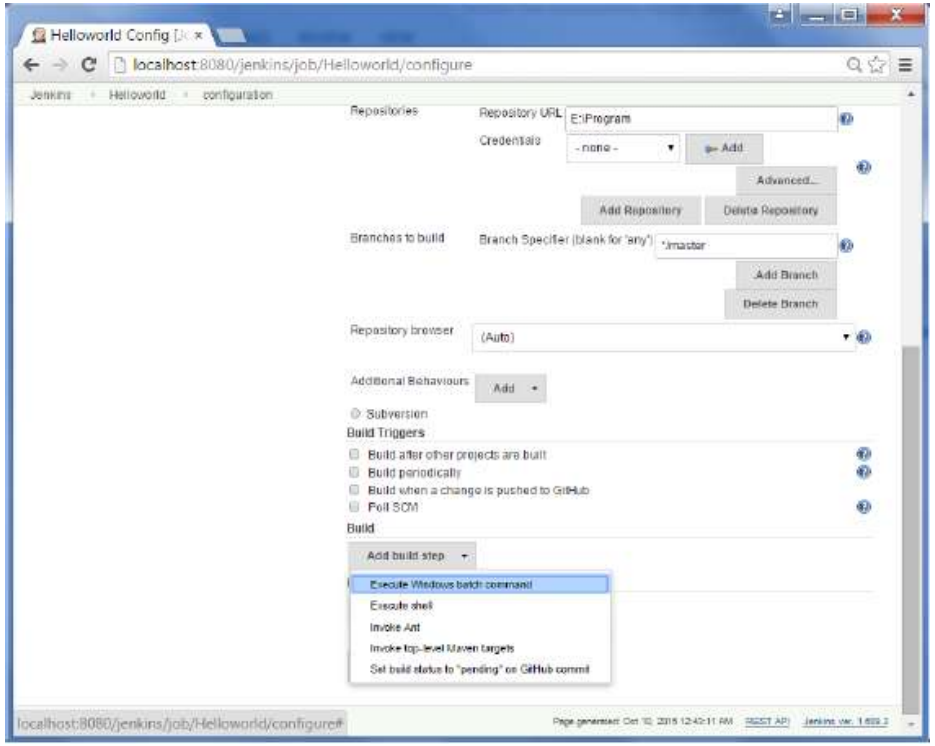
Jenkins

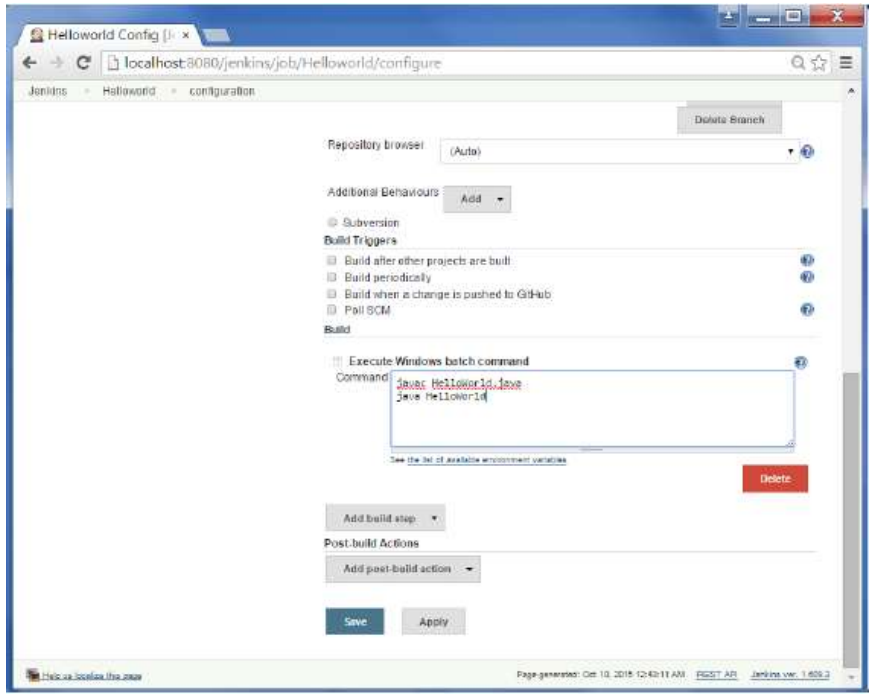
Step 5 – Now go to the Build section and click on Add build step → Execute Windows batch command

Step 6 – In the command window, enter the following commands and then click on the Save button. button.

Javac HelloWorld.java

Java HelloWorld





ANY QUERIES