



UNIVERSITY WITH A PURPOSE

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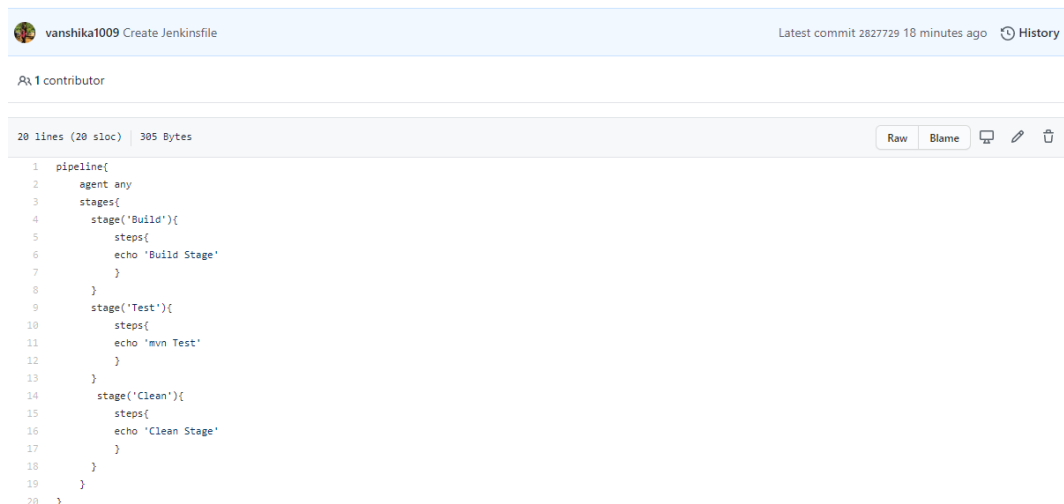
ROLL NUMBER: R171218110

CICD Lab Experiment 6

DEVELOPING JENKINS PIPELINE

Jenkins provides an amazing feature of developing a whole pipeline in which it builds, tests and deploys the code. All we have to do is provide an extra file called "Jenkinsfile". This file is an exclusive text document that defines the specifications of our SCM pipeline.

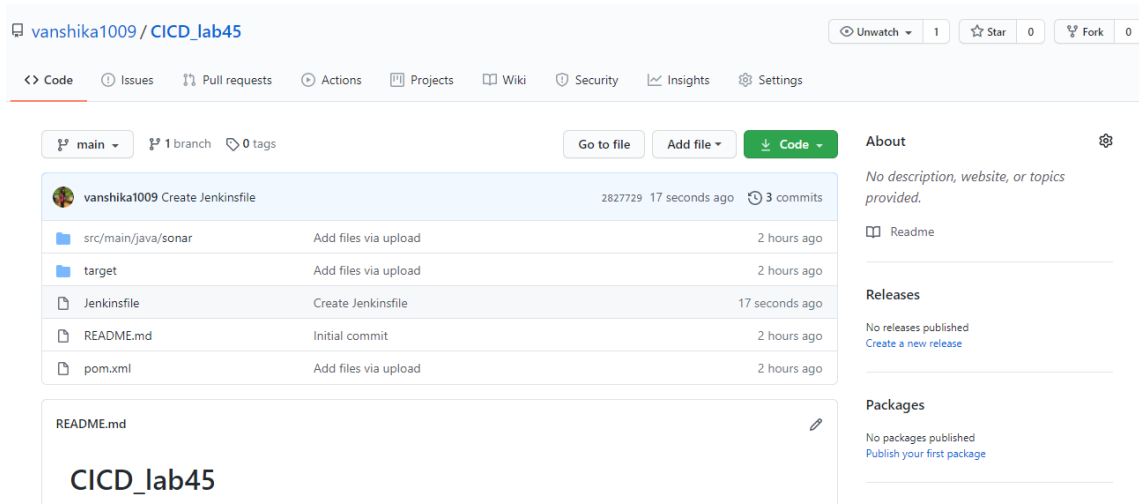
The Jenkinsfile we are going to use in our project is as follows:



The screenshot shows a GitHub commit page for a file named 'Jenkinsfile'. The commit was made by user 'vanshika1009' 18 minutes ago. The commit message is 'Create Jenkinsfile'. The file content is a Jenkins pipeline script with three stages: 'Build', 'Test', and 'Clean'. The 'Build' stage echoes 'Build Stage', the 'Test' stage echoes 'mvn Test', and the 'Clean' stage echoes 'Clean Stage'.

```
1 pipeline{
2   agent any
3   stages{
4     stage('Build'){
5       steps{
6         echo 'Build Stage'
7       }
8     }
9     stage('Test'){
10      steps{
11        echo 'mvn Test'
12      }
13    }
14    stage('Clean'){
15      steps{
16        echo 'Clean Stage'
17      }
18    }
19  }
20 }
```

Step 1) Make a Project. Save it and commit it on Github.



The screenshot shows a GitHub repository page for 'vanshika1009 / CICD_lab45'. The repository has 1 commit and 0 tags. The commit history shows a commit by 'vanshika1009' 17 seconds ago with 3 commits. The repository contains files: 'src/main/java/sonar', 'target', 'Jenkinsfile', 'README.md', and 'pom.xml'. The 'README.md' file is open, showing the title 'CICD_lab45'.

Create a new file named "Jenkinsfile" and insert the code given above.

Step 2) Start your Jenkins server by entering the command on the command prompt as follows:

```
>>java -jar Jenkins.war -httpPort=8383
```

```
C:\WINDOWS\system32\cmd.exe - java -jar jenkins.war --httpPorts=8383
8[E]{C:\Users\Dell\jenkins\war}
2020-10-19 21:06:57.335+0000 [id=1] INFO o.e.j.server.AbstractConnector#doStart: Started ServerConnector@a13544(HTTP/1.1, (http/1.1)){0.0.0.0:8383}
2020-10-19 21:06:57.335+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: Started @3156ms
2020-10-19 21:06:57.337+0000 [id=25] INFO winstone.Logger#logInternal: Winstone Servlet Engine running: controlPort=disabled
2020-10-19 21:06:57.937+0000 [id=31] INFO jenkins.InitReactorRunner$1#onAttained: Started initialization
2020-10-19 21:06:59.302+0000 [id=31] INFO jenkins.InitReactorRunner$1#onAttained: Listed all plugins
2020-10-19 21:07:04.671+0000 [id=34] INFO jenkins.InitReactorRunner$1#onAttained: Prepared all plugins
2020-10-19 21:07:04.681+0000 [id=41] INFO jenkins.InitReactorRunner$1#onAttained: Started all plugins
2020-10-19 21:07:06.333+0000 [id=39] INFO jenkins.InitReactorRunner$1#onAttained: Augmented all extensions
2020-10-19 21:07:06.421+0000 [id=30] INFO jenkins.InitReactorRunner$1#onAttained: System config loaded
2020-10-19 21:07:06.422+0000 [id=36] INFO jenkins.InitReactorRunner$1#onAttained: System config adapted
2020-10-19 21:07:06.627+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2020-10-19 21:07:06.627+0000 [id=37] INFO jenkins.InitReactorRunner$1#onAttained: Configuration for all jobs updated
2020-10-19 21:07:06.673+0000 [id=58] INFO hudson.model.AsyncPeriodicWork$lambda$doRun$0: Started Download metadata
2020-10-19 21:07:06.683+0000 [id=58] INFO hudson.model.AsyncPeriodicWork$lambda$doRun$0: Finished Download metadata, 9 ms
2020-10-19 21:07:07.069+0000 [id=37] INFO o.s.c.s.AbstractApplicationContext#prepareRefresh: Refreshing org.springframework.web.context.support.StaticWebApplicationContext@363ed5f5: display name [Root WebApplicationContext]; startup date [Tue Oct 20 02:37:07 IST 2020]; root of context hierarchy
2020-10-19 21:07:07.070+0000 [id=37] INFO o.s.c.s.AbstractApplicationContext#obtainFreshBeanFactory: Bean factory for application context [org.springframework.web
onContext@363ed5f5]: org.springframework.beans.factory.support.DefaultListableBeanFactory@14ff1f36
2020-10-19 21:07:07.084+0000 [id=37] INFO o.s.b.f.s.DefaultListableBeanFactory#preInstantiateSingletons: Pre-instantiating singletons in org.springframework.beans
.factory.support.DefaultListableBeanFactory@14ff1f36: defining beans [authenticationManager]; root of factory hierarchy
2020-10-19 21:07:07.288+0000 [id=37] INFO o.s.c.s.AbstractApplicationContext#prepareRefresh: Refreshing org.springframework.web.context.support.StaticWebApplicationContext@4750c42c: display name [Root WebApplicationContext]; startup date [Tue Oct 20 02:37:07 IST 2020]; root of context hierarchy
2020-10-19 21:07:07.288+0000 [id=37] INFO o.s.c.s.AbstractApplicationContext#obtainFreshBeanFactory: Bean factory for application context [org.springframework.web
onContext@4750c42c]: org.springframework.beans.factory.support.DefaultListableBeanFactory@7e4f8809
2020-10-19 21:07:07.290+0000 [id=37] INFO o.s.b.f.s.DefaultListableBeanFactory#preInstantiateSingletons: Pre-instantiating singletons in org.springframework.beans
.factory.support.DefaultListableBeanFactory@7e4f8809: defining beans [filter,legacy]; root of factory hierarchy
2020-10-19 21:07:07.374+0000 [id=37] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
2020-10-19 21:07:07.434+0000 [id=24] INFO hudson.WebAppMain$3#run: Jenkins is fully up and running
```

Step 3) Create a “new item” and give the link of your github repo in the speciifactions of the project.

Build the project :

```
 Console Output
Started by user vanshika
Running as SYSTEM
Building in workspace C:\Users\Dell\jenkins\workspace\EXP_6
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/vanshika1009/CICD\_lab45.git
> C:\Program Files\Git\cmd\git.exe init C:\Users\Dell\jenkins\workspace\EXP_6 # timeout=10
Fetching upstream changes from https://github.com/vanshika1009/CICD\_lab45.git
> C:\Program Files\Git\cmd\git.exe --version # timeout=10
> git --version # "git version 2.25.1.windows.1"
> C:\Program Files\Git\cmd\git.exe fetch --tags --progress -- https://github.com/vanshika1009/CICD\_lab45.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
> C:\Program Files\Git\cmd\git.exe config remote.origin.url https://github.com/vanshika1009/CICD\_lab45.git # timeout=10
> C:\Program Files\Git\cmd\git.exe config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
> C:\Program Files\Git\cmd\git.exe rev-parse "refs/remotes/origin/main^{commit}" # timeout=10
> C:\Program Files\Git\cmd\git.exe rev-parse "refs/remotes/origin/main^{commit}" # timeout=10
Checking out Revision 282772990a0e209b558d32a3587c2fead0a6eca8 (refs/remotes/origin/main)
> C:\Program Files\Git\cmd\git.exe config core.sparsecheckout # timeout=10
> C:\Program Files\Git\cmd\git.exe checkout -f 282772990a0e209b558d32a3587c2fead0a6eca8 # timeout=10
Commit message: "Create Jenkinsfile"
First time build. Skipping changelog.
Finished: SUCCESS
```