

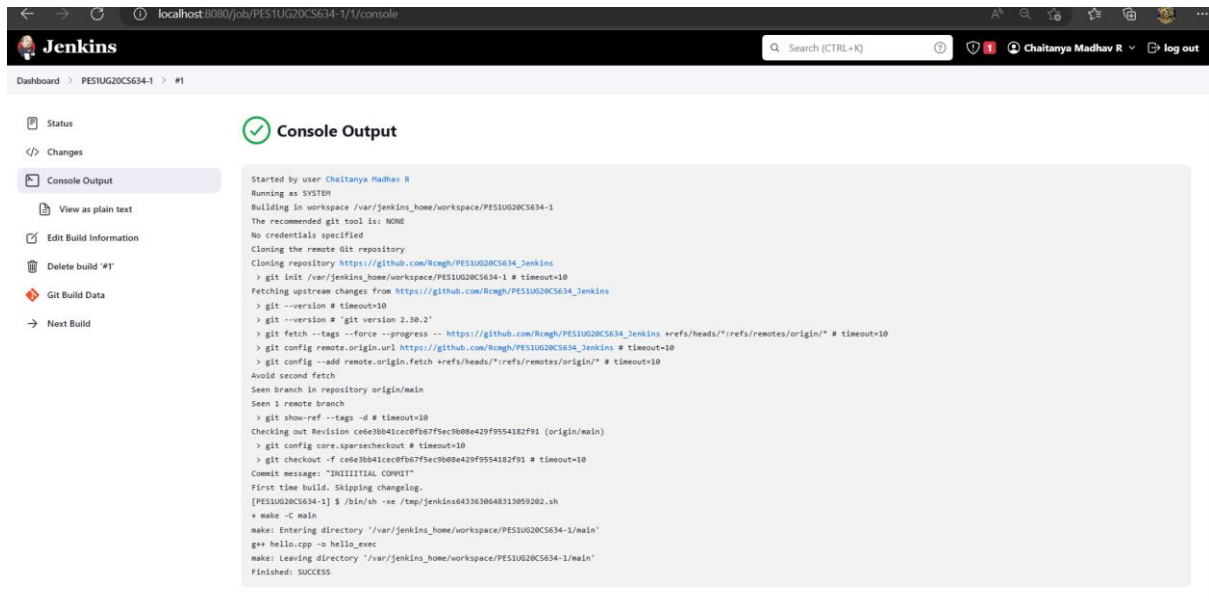
Name:	Chaitanya Madhav R
SRN:	PES1UG20CS634
Section:	K

Task1:

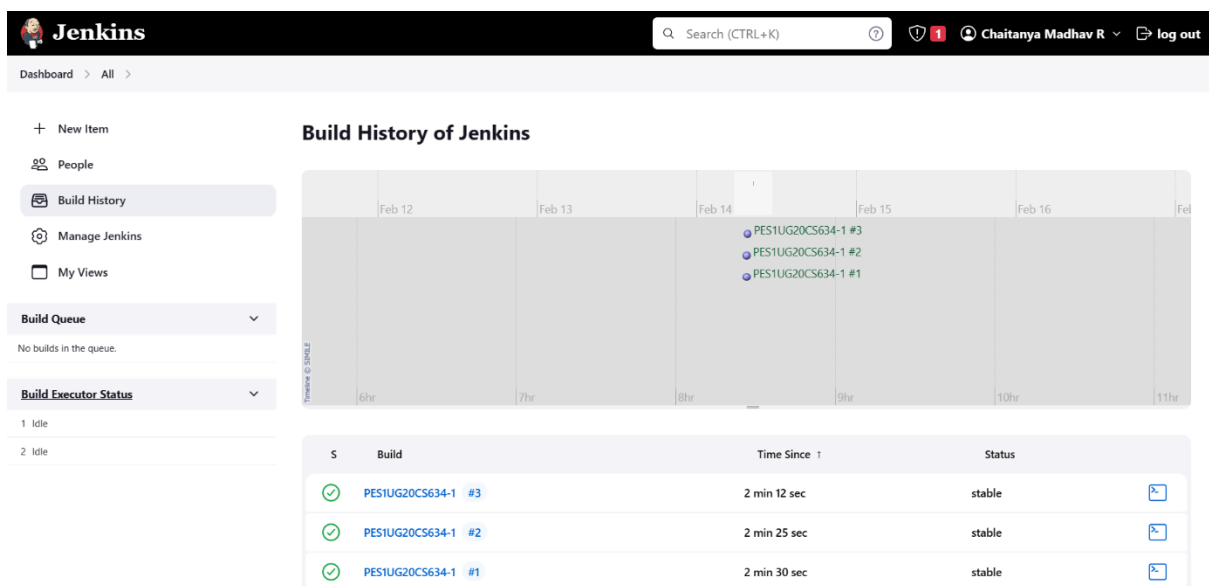
- ```
C:\Windows\System32\cmd.exe - docker run --rm -p 8080:8080 -p 50000:50000 -it jenkins:PESIUIGZOC5634
```
- ```
C:\Users\chait\Desktop>jenkins_lab-main\jenkins_lab-main\Dockerfile>docker run -p 8080:8080 -p 50000:50000 -it jenkins:PESIUIGZOC5634  
Running from: /usr/share/jenkins/jenkins-war:  
adwroot: EnvVars.masterEnvVars.get("JENKINS_HOME")  
2023-02-14 04:46:45.204+0000 [id=1] INFO winstone.Logger$LogInternal: Beginning extraction from war file  
2023-02-14 04:46:46.344+0000 [id=1] WARNING o.e.j.s.handler.ContextHandler$ContextPath: Empty contextPath  
2023-02-14 04:46:46.423+0000 [id=1] INFO org.eclipse.jetty.server.Server@doStart: jetty-10.0.12; built: 2022-09-14T01:54:40.07Z; git: 408d0139887e27a57b54ed52e2d92a36731ae88; JVM 11.0.18.10  
2023-02-14 04:46:46.769+0000 [id=1] INFO o.e.j.w.StandardDescriptorProcessor$VisitServlet: No JSP Support for /, did not find org.eclipse.jetty.jsp.JettyJspServlet  
o.e.j.s.DefaultSessionManager$doStart: Session workname=mode0  
2023-02-14 04:46:47.501+0000 [id=1] INFO Hudson.WebAppMain$contextInitialized: Jenkins home directory: /var/jenkins_home found at: EnvVars.masterEnvVars.get("JENKINS_HOME")  
o.e.j.s.handler.ContextHandler$doStart: Started w.@cd56321{Jenkins v2.375.3/, file:///var/jenkins_home/war/, AVAILABLE}[(/var/jenkins_home/war/  
2023-02-14 04:46:47.790+0000 [id=1] INFO o.e.j.s.server.AbstractConnector$doStart: Started ServerConnector{@2efcfda6[HTTP/1.1, (http://1.1)](0.0.0.0:8080)  
org.eclipse.jetty.server.Server$doStart: Started Server@a0f70521{Started ServletEngine running: controlPort=disabled  
2023-02-14 04:46:47.822+0000 [id=25] INFO winstone.Logger$LogInternal: WinStone Servlet Engine running: controlPort=disabled  
2023-02-14 04:46:48.177+0000 [id=32] INFO jenkins.InitReactorRunner$!onAttained: Started initialization  
2023-02-14 04:46:48.212+0000 [id=32] INFO jenkins.InitReactorRunner$!onAttained: Listed all plugins  
2023-02-14 04:46:49.464+0000 [id=32] INFO jenkins.InitReactorRunner$!onAttained: Prepared all plugins  
2023-02-14 04:46:49.473+0000 [id=43] INFO jenkins.InitReactorRunner$!onAttained: Started all plugins  
2023-02-14 04:46:49.482+0000 [id=38] INFO jenkins.InitReactorRunner$!onAttained: Augmented all extensions  
2023-02-14 04:46:49.758+0000 [id=41] INFO jenkins.InitReactorRunner$!onAttained: System config loaded  
2023-02-14 04:46:49.760+0000 [id=41] INFO jenkins.InitReactorRunner$!onAttained: System config adapted  
2023-02-14 04:46:49.761+0000 [id=41] INFO jenkins.InitReactorRunner$!onAttained: Loaded all jobs  
2023-02-14 04:46:49.765+0000 [id=39] INFO jenkins.InitReactorRunner$!onAttained: Configuration for all jobs updated  
2023-02-14 04:46:49.804+0000 [id=58] INFO hudson.util.Retrier#start: Attempt #1 to do the action check updates server  
  
WARNING: An illegal reflective access operation has occurred  
WARNING: Illegal reflective access by org.codehaus.groovy.vmplugin.v7.Java71 (file:/var/jenkins_home/war/MEB-INF/lib/groovy-all-2.4.21.jar) to constructor java.lang.invoke.MethodHandles$Lookup(java.lang.Class,  
    )  
WARNING: Please consider reporting this to the maintainers of org.codehaus.groovy.vmplugin.v7.Java71  
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations  
WARNING: All legal access operations will be denied in a future release  
2023-02-14 04:46:50.451+0000 [id=32] INFO jenkins.install.SetupWizardInit:  
  
*****  
*****  
*****  
*****  
*****  
  
Jenkins initial setup is required. An admin user has been created and a password generated.  
Please use the following password to proceed to installation:  
  
jha0b956cd9548edb7c5ed915e99b53  
  
This may also be found at: /var/jenkins_home/secrets/initialAdminPassword  
  
*****  
*****  
*****  
*****  
*****  
  
2023-02-14 04:47:34.309+0000 [id=32] INFO jenkins.InitReactorRunner$!onAttained: Completed initialization  
2023-02-14 04:47:34.355+0000 [id=24] INFO hudson.lifecycle.Lifecycle$onReady: Jenkins is fully up and running  
2023-02-14 04:47:35.368+0000 [id=58] INFO h.m.DownloadService$DownloadableLoad: Obtained the updated data file for Hudson.tasks.Maven.MavenInstaller
```

Task2:

1. Picture showing the console output after the build is successful.

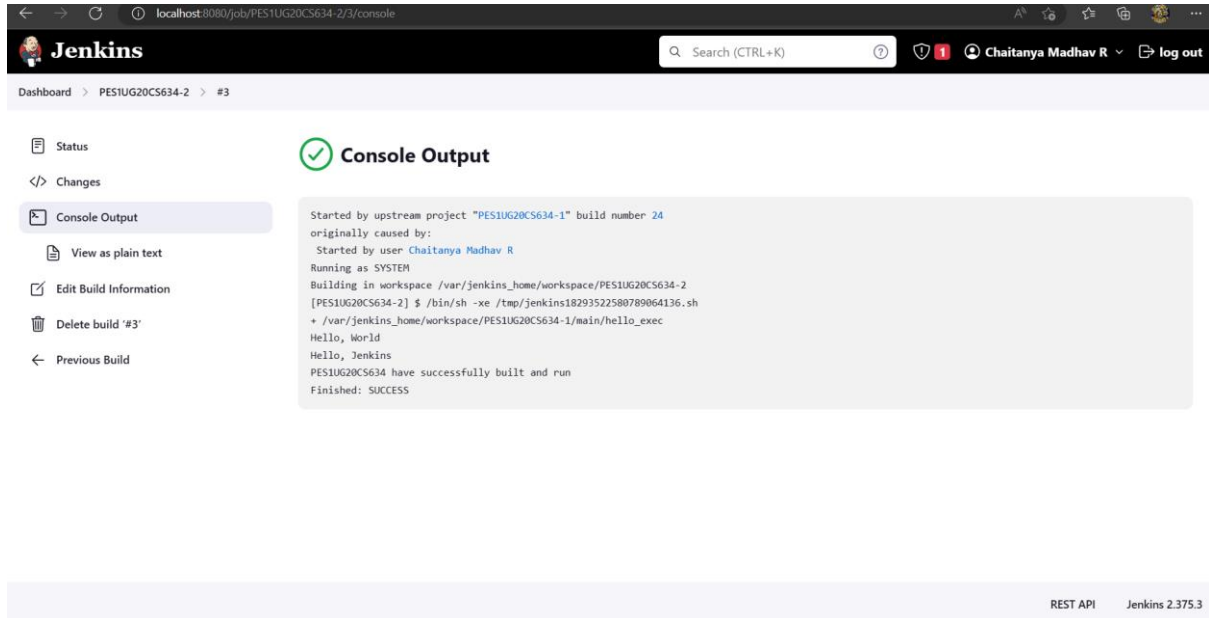


2. Picture showing the Stable state of the task in Build History of Jenkins.



Task3:

1. Console output of second job.

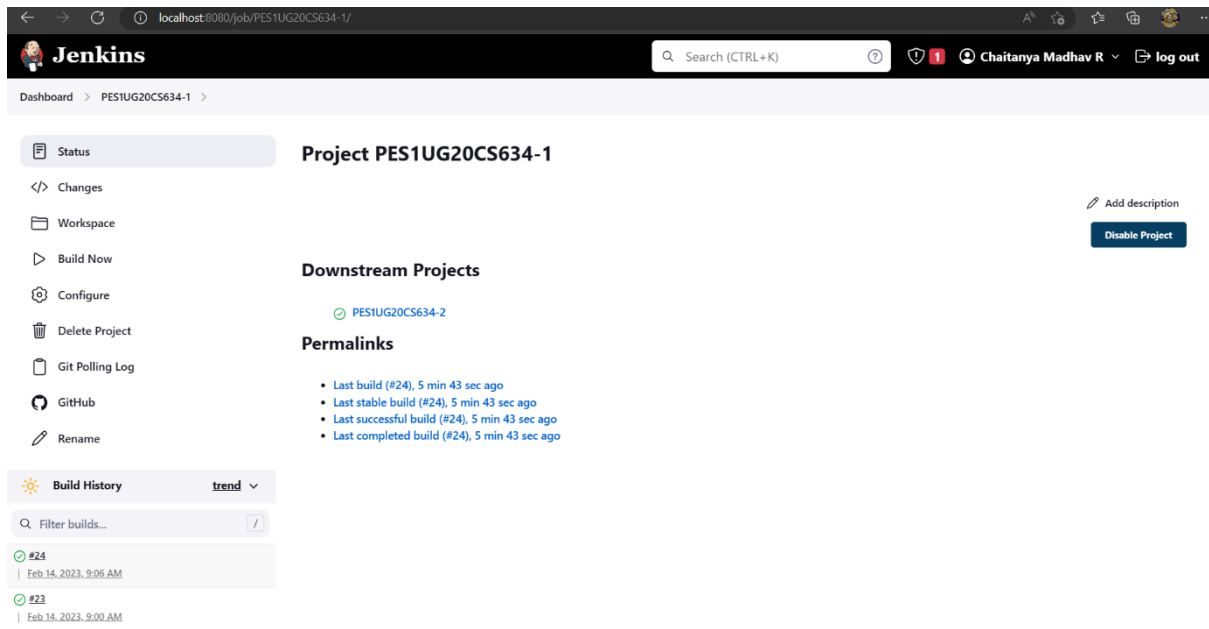


The screenshot shows the Jenkins web interface for the job 'PES1UG20CS634-2'. The left sidebar contains links for Status, Changes, Console Output (selected), View as plain text, Edit Build Information, Delete build '#3', and Previous Build. The main area displays the 'Console Output' for build #3, which started by upstream project 'PES1UG20CS634-1' build number 24. The output shows the build was triggered by user 'Chaitanya Madhav R' and ran as 'SYSTEM'. It executed a shell script that printed 'Hello, World' and reported a successful build and run.

```
Started by upstream project "PES1UG20CS634-1" build number 24
originally caused by:
  Started by user Chaitanya Madhav R
Running as SYSTEM
Building in workspace /var/jenkins_home/workspace/PES1UG20CS634-2
[PES1UG20CS634-2] $ /bin/sh -xe /tmp/jenkins18293522580789064136.sh
+ /var/jenkins_home/workspace/PES1UG20CS634-1/main/hello_exec
Hello, World
Hello, Jenkins
PES1UG20CS634 have successfully built and run
Finished: SUCCESS
```

REST API Jenkins 2.375.3

2. Status page of first job



The screenshot shows the Jenkins web interface for the job 'PES1UG20CS634-1'. The left sidebar contains links for Status (selected), Changes, Workspace, Build Now, Configure, Delete Project, Git Polling Log, GitHub, and Rename. The main area displays the 'Project PES1UG20CS634-1' status page. It includes a 'Downstream Projects' section with a link to 'PES1UG20CS634-2' and a 'Permalinks' section with links to the last build, last stable build, last successful build, and last completed build, all of which occurred 5 minutes and 43 seconds ago. The 'Build History' section shows a list of builds, with build #24 being the most recent, completed on Feb 14, 2023, at 9:05 AM.

Project PES1UG20CS634-1

Downstream Projects

- PES1UG20CS634-2

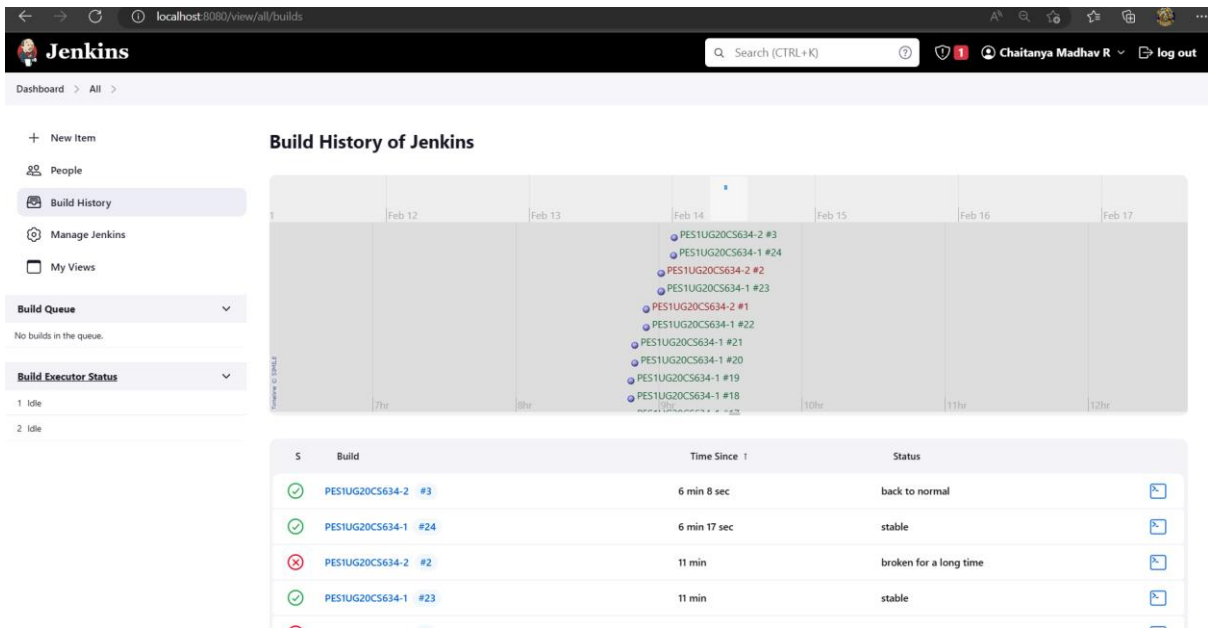
Permalinks

- Last build (#24), 5 min 43 sec ago
- Last stable build (#24), 5 min 43 sec ago
- Last successful build (#24), 5 min 43 sec ago
- Last completed build (#24), 5 min 43 sec ago

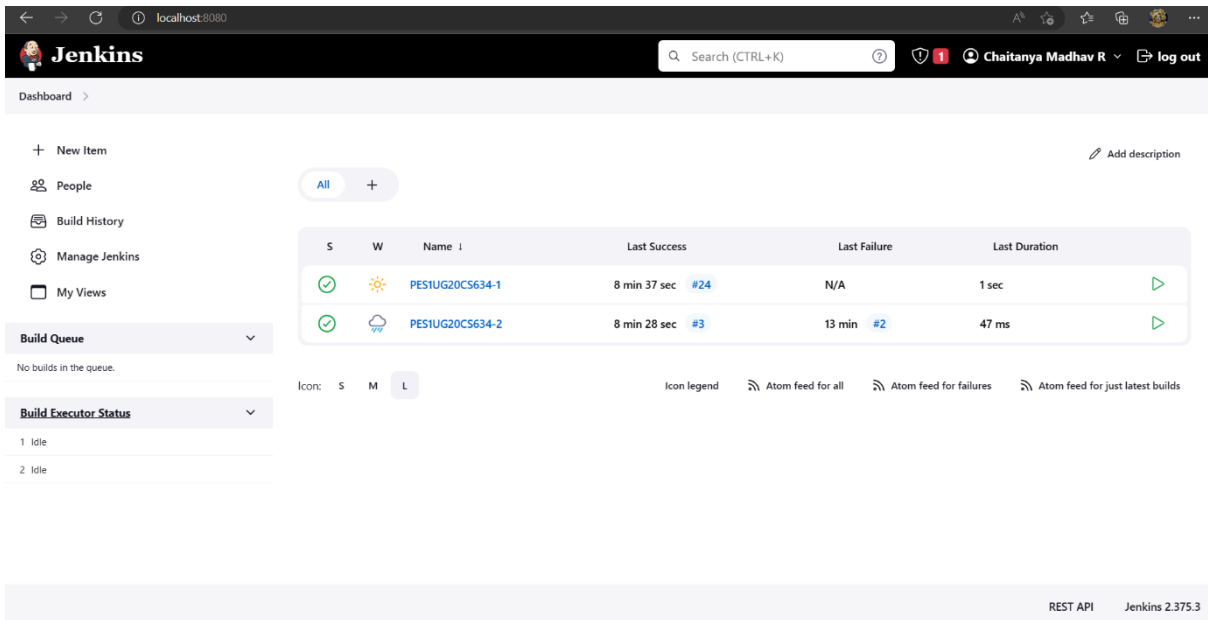
Build History

Build	Status	Time
#24	Success	Feb 14, 2023, 9:05 AM
#23	Success	Feb 14, 2023, 9:00 AM

3. Build History of Jenkins.

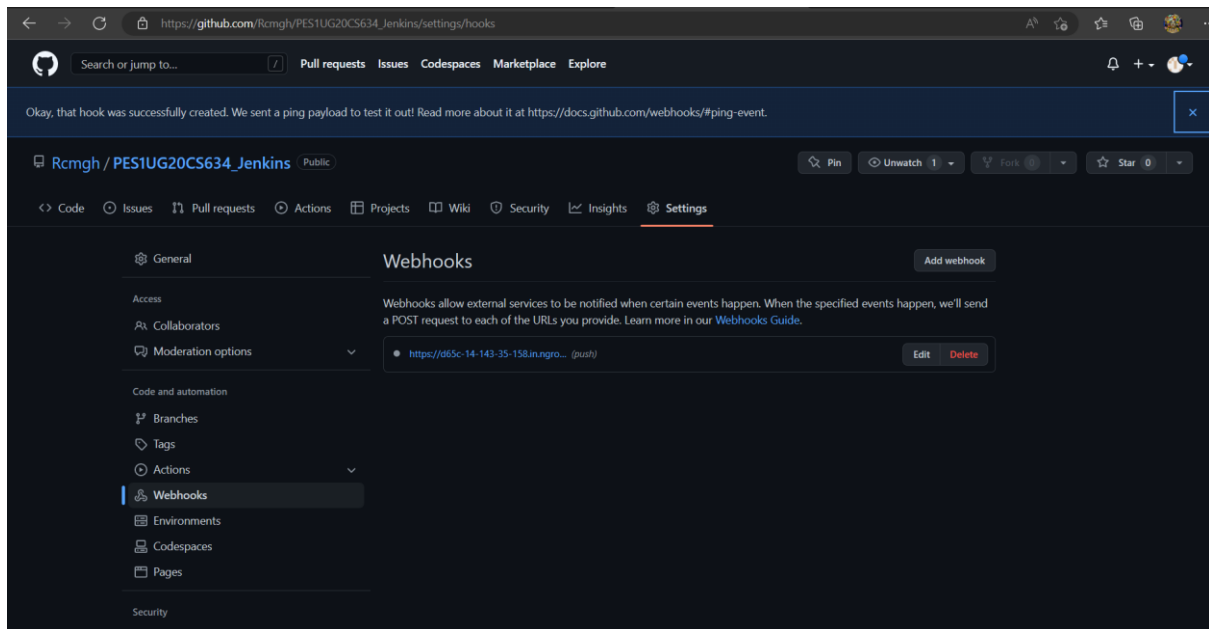


4. Jenkins Dashboard.

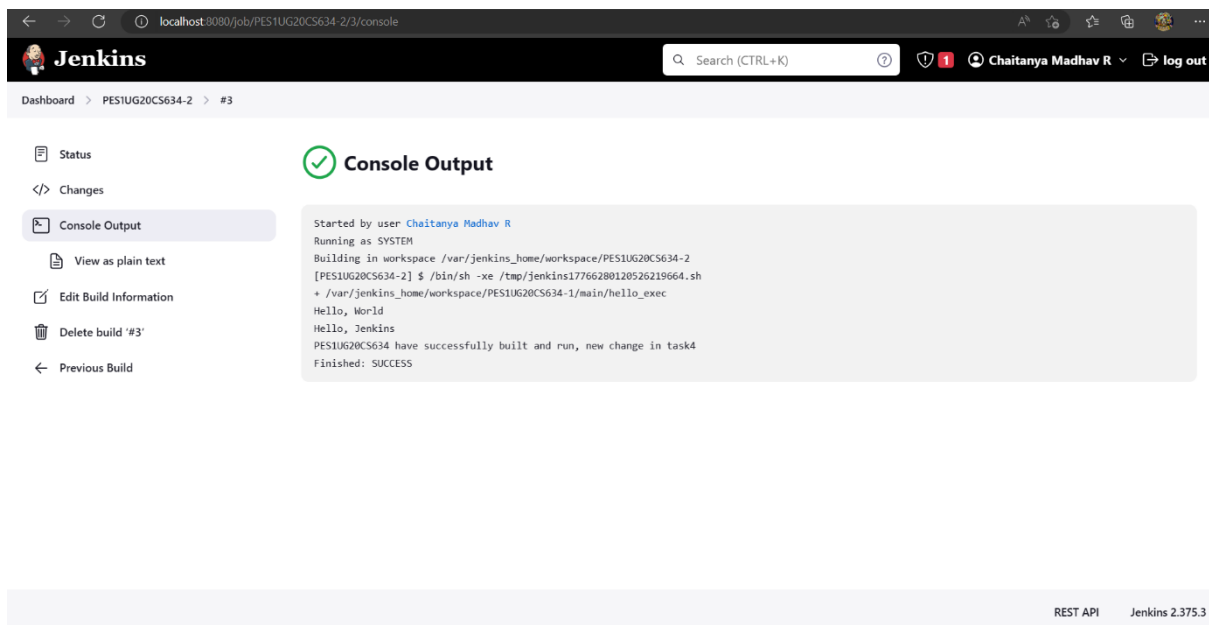


Task4:

1. Webhook added to your GitHub repository.

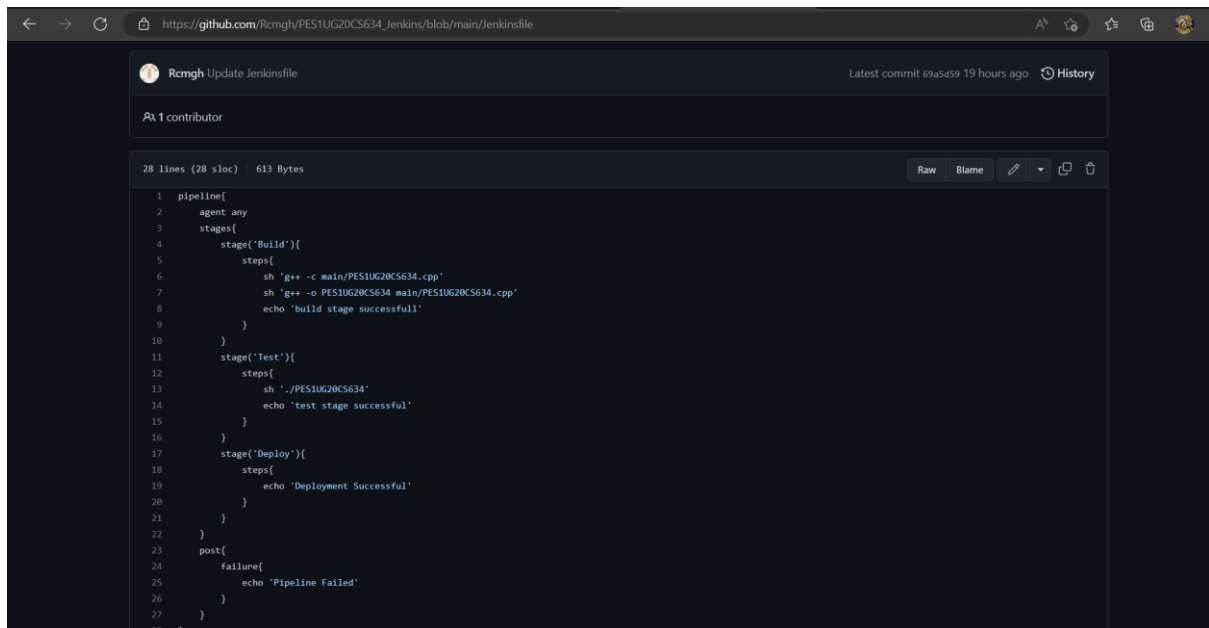


2. Console Output of second job displaying the change made in hello.cpp file.



Task5:

1. Code/script written to create basic pipeline using GitHub repository.

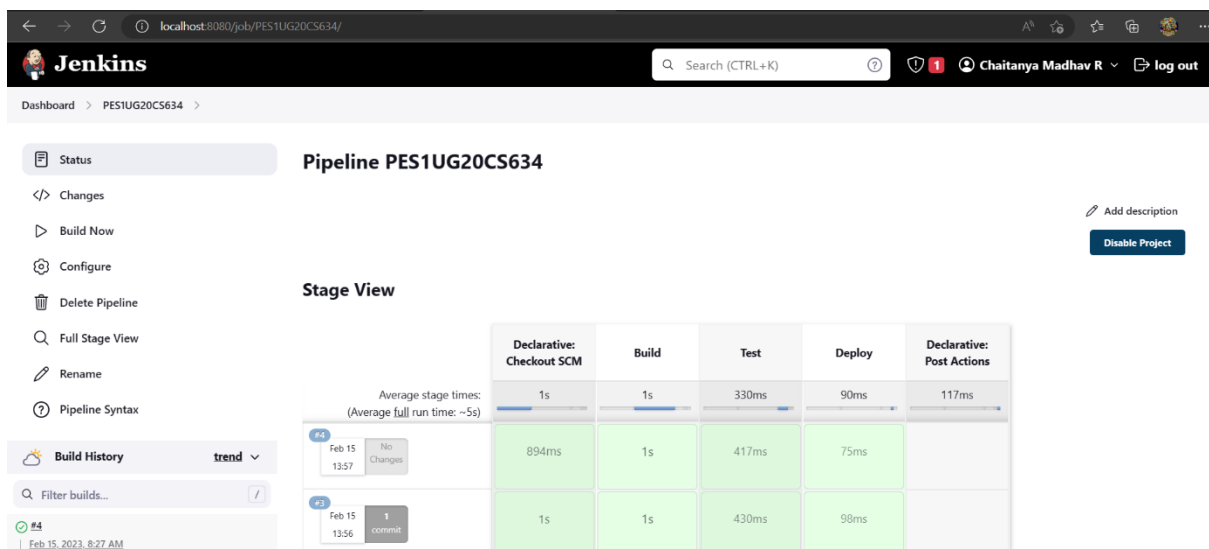


The screenshot shows a GitHub repository page for 'Rcmgh Update Jenkinsfile'. The file 'Jenkinsfile' is displayed with the following content:

```
1 pipeline{
2   agent any
3   stages{
4     stage('Build'){
5       steps{
6         sh 'g++ -c main/PES1UG20CS634.cpp'
7         sh 'g++ -o PES1UG20CS634 main/PES1UG20CS634.cpp'
8         echo 'build stage successful'
9       }
10    }
11    stage('Test'){
12      steps{
13        sh './PES1UG20CS634'
14        echo 'test stage successful'
15      }
16    }
17    stage('Deploy'){
18      steps{
19        echo 'Deployment Successful'
20      }
21    }
22  }
23  post{
24    failure{
25      echo 'Pipeline Failed'
26    }
27  }
28 }
```

2. Output of working created pipeline, the screenshot should include

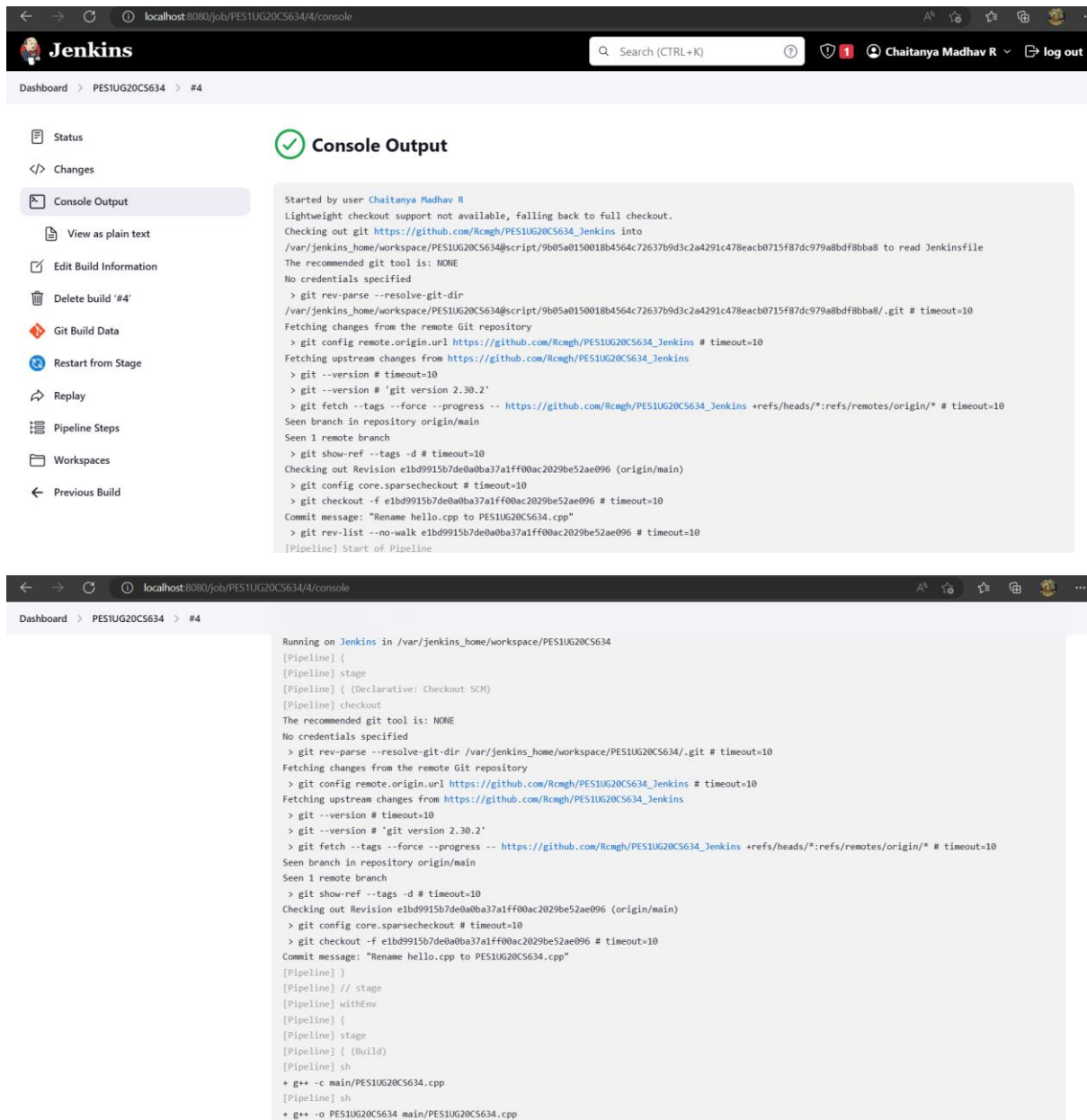
- Stage view / Execution status of pipeline with all stages succeeded
- Verify Declarative: Post Actions stage succeed for handling failures



The screenshot shows the Jenkins Pipeline PES1UG20CS634 interface. The 'Stage View' is displayed, showing the execution status of the pipeline stages. The stages are Declarative: Checkout SCM, Build, Test, Deploy, and Declarative: Post Actions. The average stage times are 1s, 1s, 330ms, 90ms, and 117ms respectively. The average full run time is ~5s.

	Declarative: Checkout SCM	Build	Test	Deploy	Declarative: Post Actions
Average stage times:	1s	1s	330ms	90ms	117ms
#4 Feb 15 13:57 No Changes	894ms	1s	417ms	75ms	
#3 Feb 15 13:56 1 commit	1s	1s	430ms	90ms	

3. Console Output of the Pipeline.

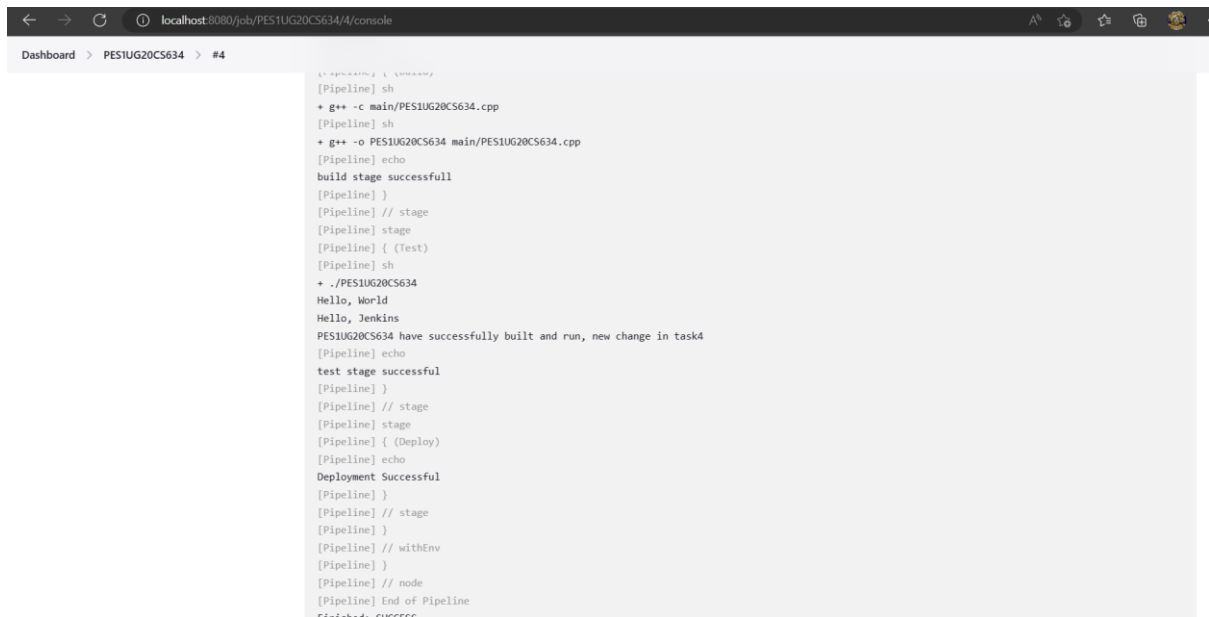


The screenshot displays the Jenkins web interface for a pipeline named 'PES1UG20CS634' at build #4. The left sidebar contains navigation links: Status, Changes, Console Output (selected), View as plain text, Edit Build Information, Delete build '#4', Git Build Data, Restart from Stage, Replay, Pipeline Steps, Workspaces, and Previous Build. The main area shows the 'Console Output' with a green checkmark icon and the title 'Console Output'. The output text is as follows:

```
Started by user Chaitanya Madhav R
Lightweight checkout support not available, falling back to full checkout.
Checking out git https://github.com/Rcmgh/PES1UG20CS634_Jenkins into
/var/jenkins_home/workspace/PES1UG20CS634@script/9b05a0150018b4564c72637b9d3c2a4291c478eac0715f87dc979a8bdf8bba8 to read Jenkinsfile
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir
/var/jenkins_home/workspace/PES1UG20CS634@script/9b05a0150018b4564c72637b9d3c2a4291c478eac0715f87dc979a8bdf8bba8/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/Rcmgh/PES1UG20CS634_Jenkins # timeout=10
Fetching upstream changes from https://github.com/Rcmgh/PES1UG20CS634_Jenkins
> git --version # timeout=10
> git --version # 'git version 2.30.2'
> git fetch --tags --force --progress -- https://github.com/Rcmgh/PES1UG20CS634_Jenkins +refs/heads/*:refs/remotes/origin/* # timeout=10
Seen branch in repository origin/main
Seen 1 remote branch
> git show-ref --tags -d # timeout=10
Checking out Revision e1bd9915b7de0a0ba37a1ff00ac2029be52ae096 (origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f e1bd9915b7de0a0ba37a1ff00ac2029be52ae096 # timeout=10
Commit message: "Rename hello.cpp to PES1UG20CS634.cpp"
> git rev-list --no-walk e1bd9915b7de0a0ba37a1ff00ac2029be52ae096 # timeout=10
[Pipeline] Start of Pipeline
```

Below the console output, there is a section titled 'Running on Jenkins in /var/jenkins_home/workspace/PES1UG20CS634' which shows the pipeline script:

```
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/jenkins_home/workspace/PES1UG20CS634/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/Rcmgh/PES1UG20CS634_Jenkins # timeout=10
Fetching upstream changes from https://github.com/Rcmgh/PES1UG20CS634_Jenkins
> git --version # timeout=10
> git --version # 'git version 2.30.2'
> git fetch --tags --force --progress -- https://github.com/Rcmgh/PES1UG20CS634_Jenkins +refs/heads/*:refs/remotes/origin/* # timeout=10
Seen branch in repository origin/main
Seen 1 remote branch
> git show-ref --tags -d # timeout=10
Checking out Revision e1bd9915b7de0a0ba37a1ff00ac2029be52ae096 (origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f e1bd9915b7de0a0ba37a1ff00ac2029be52ae096 # timeout=10
Commit message: "Rename hello.cpp to PES1UG20CS634.cpp"
[Pipeline] }
[Pipeline] // stage
[Pipeline] withEnv
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Build)
[Pipeline] sh
+ g++ -c main/PES1UG20CS634.cpp
[Pipeline] sh
+ g++ -o PES1UG20CS634 main/PES1UG20CS634.cpp
```



```
localhost:8080/job/PES1UG20CS634/4/console
Dashboard > PES1UG20CS634 > #4

[Pipeline] sh
+ g++ -c main/PES1UG20CS634.cpp
[Pipeline] sh
+ g++ -o PES1UG20CS634 main/PES1UG20CS634.cpp
[Pipeline] echo
build stage successful
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Test)
[Pipeline] sh
+ ./PES1UG20CS634
Hello, World
Hello, Jenkins
PES1UG20CS634 have successfully built and run, new change in task4
[Pipeline] echo
test stage successful
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Deploy)
[Pipeline] echo
Deployment Successful
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

4. Link to the created GitHub repository.

Link : [Rcmgh/PES1UG20CS634_Jenkins \(github.com\)](https://github.com/Rcmgh/PES1UG20CS634_Jenkins)

https://github.com/Rcmgh/PES1UG20CS634_Jenkins