

CLOUD COMPUTING

ASSIGNMENT – 2

Name : Sanmat Sanjayakumar Payagoudar

SRN : PES1UG20CS385

Section : G

TASK – 1 :

1. Screenshot of the running Docker Container after installing Jenkins

```
2023-02-15 08:47:56.598+0000 [id=39] INFO jenkins.InitReactorRunner$1#onAttained: Prepared all plugins
2023-02-15 08:47:56.606+0000 [id=39] INFO jenkins.InitReactorRunner$1#onAttained: Started all plugins
2023-02-15 08:47:56.617+0000 [id=47] INFO jenkins.InitReactorRunner$1#onAttained: Augmented all extensions
2023-02-15 08:47:56.998+0000 [id=44] INFO jenkins.InitReactorRunner$1#onAttained: System config loaded
2023-02-15 08:47:56.999+0000 [id=37] INFO jenkins.InitReactorRunner$1#onAttained: System config adapted
2023-02-15 08:47:57.001+0000 [id=37] INFO jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2023-02-15 08:47:57.004+0000 [id=37] INFO jenkins.InitReactorRunner$1#onAttained: Configuration for all jobs updated
2023-02-15 08:47:57.046+0000 [id=66] INFO hudson.util.Retrier$1#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.Java7$1 (file:/var/jenkins_home/war/WEB-INF/lib/groovy-all-2.4.21.jar) to constructor
java.lang.invoke.MethodHandles$Lookup(java.lang.Class,int)
WARNING: Please consider reporting this to the maintainers of org.codehaus.groovy.vmplugin.v7.Java7$1
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
2023-02-15 08:47:57.694+0000 [id=34] INFO jenkins.install.SetupWizard#init:

*****
*****
*****

Jenkins initial setup is required. An admin user has been created and a password generated.
Please use the following password to proceed to installation:

ce21d9788b99461bcc5855f9abeea77

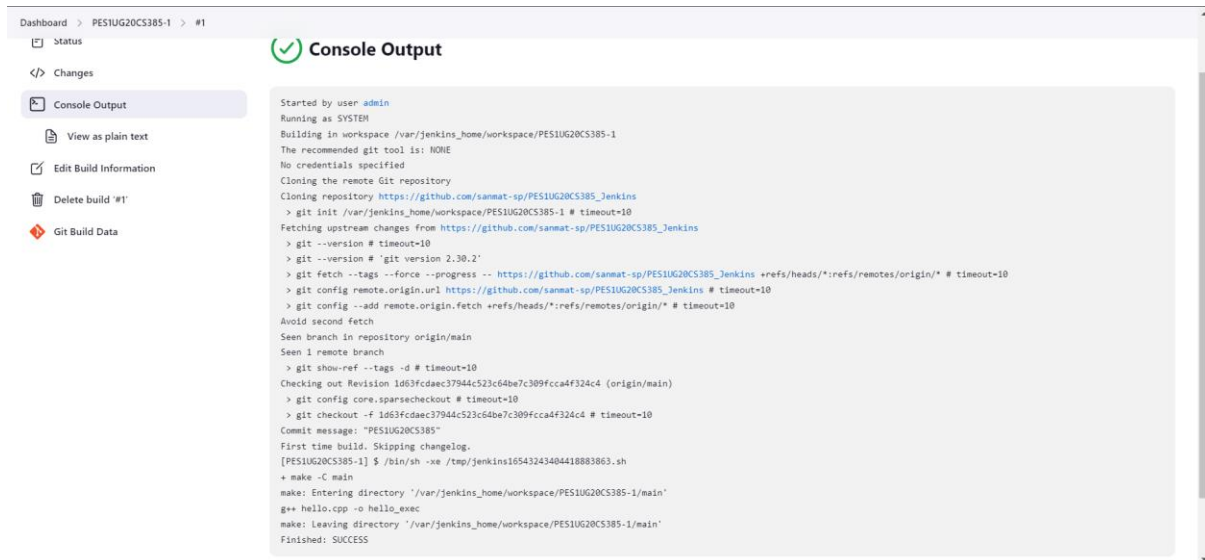
This may also be found at: /var/jenkins_home/secrets/initialAdminPassword

*****
*****
*****

2023-02-15 08:48:54.649+0000 [id=34] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
2023-02-15 08:48:54.716+0000 [id=24] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running
2023-02-15 08:48:56.041+0000 [id=66] INFO h.m.DownloadService$Downloadable#load: Obtained the updated data file for hudson.tasks.Maven.MavenInstaller
2023-02-15 08:48:56.043+0000 [id=66] INFO hudson.util.Retrier$1#start: Performed the action check updates server successfully at the attempt #1
2023-02-15 08:49:50.306+0000 [id=17] INFO hudson.PluginManager#install: Starting installation of a batch of 20 plugins plus their dependencies
2023-02-15 08:49:50.311+0000 [id=17] INFO hudson.model.UpdateSite$Plugin#deploy: Adding dependent install of ionicons-api for plugin cloudbees-folder
2023-02-15 08:49:50.314+0000 [id=17] INFO hudson.model.UpdateSite$Plugin#deploy: Adding dependent install of instance-identity for plugin ionicons-api
2023-02-15 08:49:50.315+0000 [id=17] INFO hudson.model.UpdateSite$Plugin#deploy: Adding dependent install of bouncycastle-api for plugin instance-iden
```

TASK – 2 :

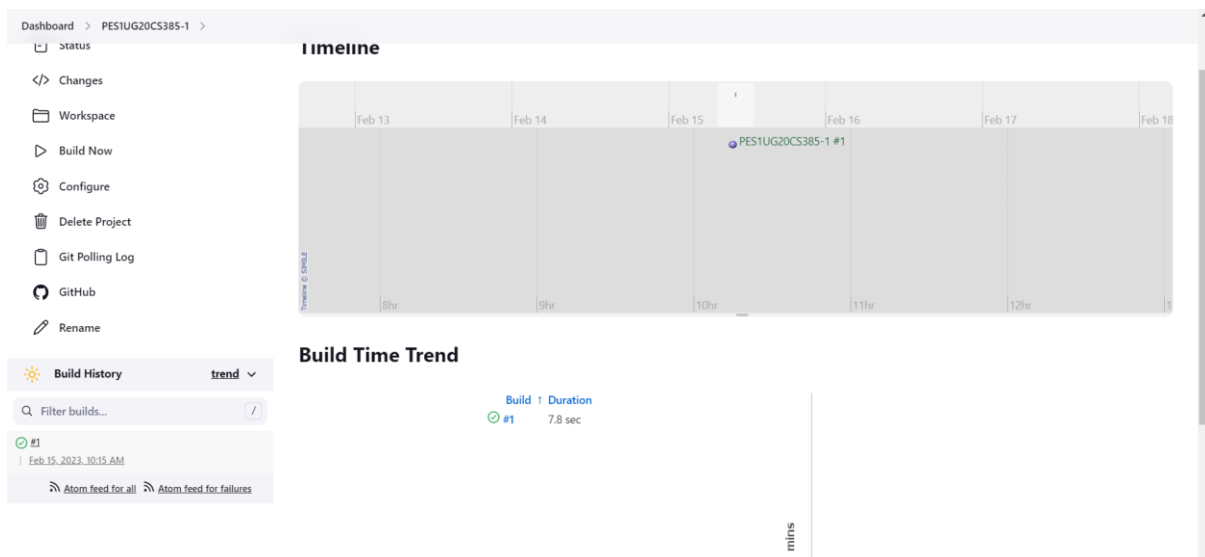
1. Picture showing the console output after the build is successful



The screenshot shows the Jenkins 'Console Output' for a build named 'PES1UG20CS385-1' with ID '#1'. The output text is as follows:

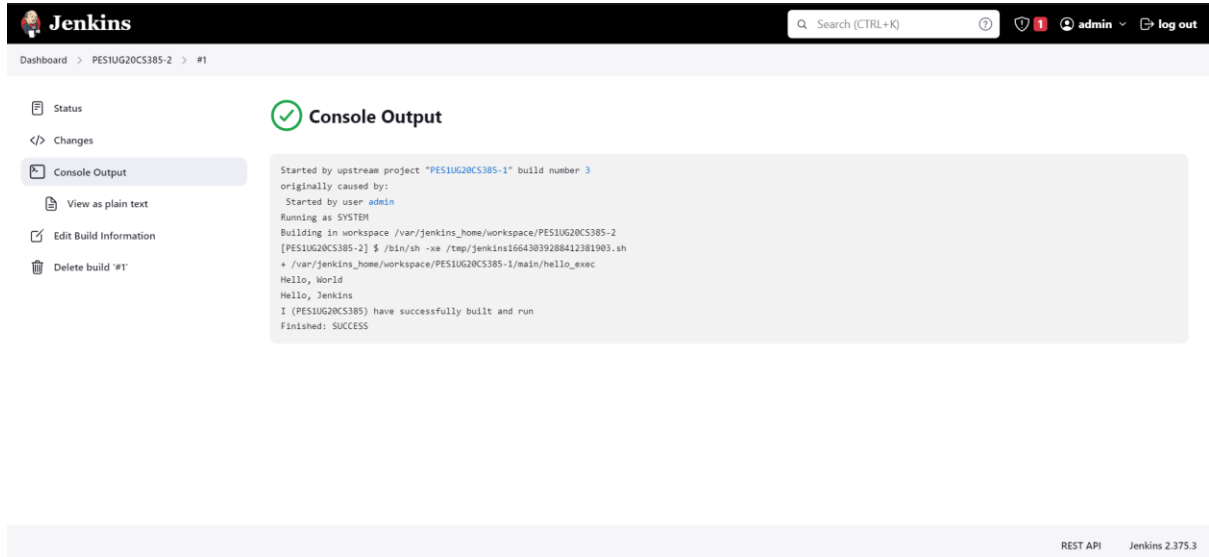
```
Started by user admin
Running as SYSTEM
Building in workspace /var/jenkins_home/workspace/PES1UG20CS385-1
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/sanmat-sp/PES1UG20CS385_Jenkins
> git init /var/jenkins_home/workspace/PES1UG20CS385-1 # timeout=10
Fetching upstream changes from https://github.com/sanmat-sp/PES1UG20CS385_Jenkins
> git --version # timeout=10
> git --version # 'git version 2.30.2'
> git fetch --tags --force --progress -- https://github.com/sanmat-sp/PES1UG20CS385_Jenkins +refs/heads/*:refs/remotes/origin/* # timeout=10
> git config remote.origin.url https://github.com/sanmat-sp/PES1UG20CS385_Jenkins # timeout=10
> git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
Seen branch in repository origin/main
Seen 1 remote branch
> git show-ref --tags -d # timeout=10
Checking out Revision 1d63fcdac37944c523c64be7c309fcc4f324c4 (origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 1d63fcdac37944c523c64be7c309fcc4f324c4 # timeout=10
Commit message: "PES1UG20CS385"
First time build. Skipping changelog.
[PES1UG20CS385-1] $ /bin/sh -xe /tmp/jenkins16543243404410883863.sh
+ make -C main
make: Entering directory '/var/jenkins_home/workspace/PES1UG20CS385-1/main'
g++ hello.cpp -o hello_exec
make: Leaving directory '/var/jenkins_home/workspace/PES1UG20CS385-1/main'
Finished: SUCCESS
```

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



TASK – 3 :

1. Console output of second job

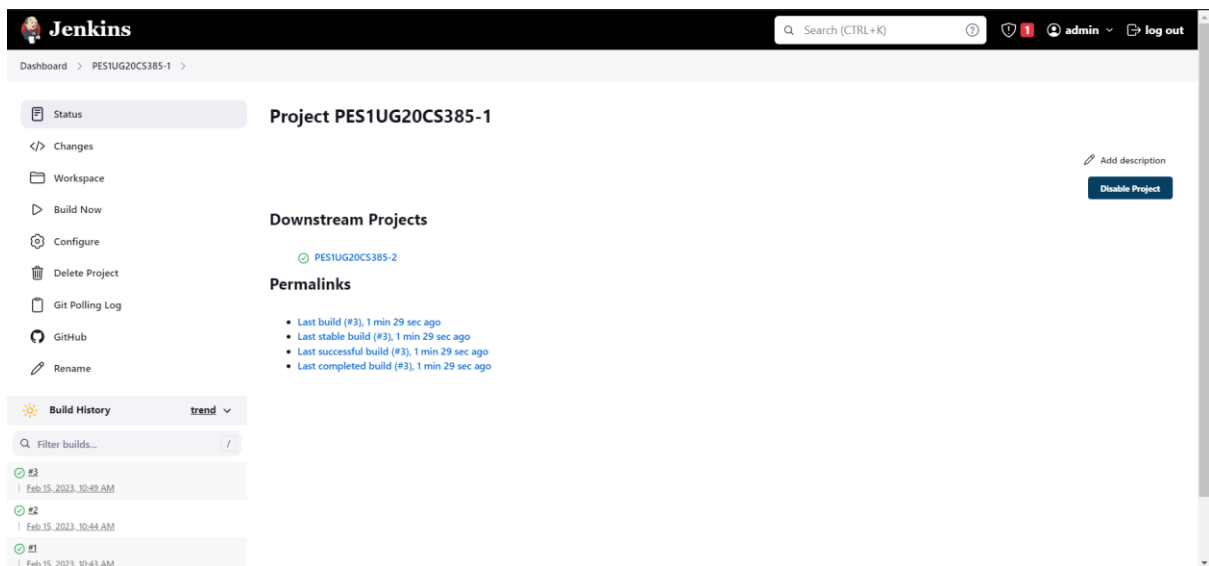


The screenshot shows the Jenkins web interface for job **PES1UG20CS385-2**. The left sidebar contains links for Status, Changes, Console Output (selected), View as plain text, Edit Build Information, and Delete build '#1'. The main area displays the **Console Output** for build #1, which is a successful build. The output text is as follows:

```
Started by upstream project "PES1UG20CS385-1" build number 3
originally caused by:
  Started by user admin
Running as SYSTEM
Building in workspace /var/jenkins_home/workspace/PES1UG20CS385-2
[PES1UG20CS385-2] $ /bin/sh -xe /tmp/jenkins16643039208413381903.sh
+ /var/jenkins_home/workspace/PES1UG20CS385-1/main/hello_exec
Hello, World
Hello, Jenkins
I (PES1UG20CS385) have successfully built and run
Finished: SUCCESS
```

At the bottom right of the interface, it shows **REST API** and **Jenkins 2.375.3**.

2. Status page of first job



The screenshot shows the Jenkins web interface for the **Project PES1UG20CS385-1**. 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 status for **PES1UG20CS385-1**. It includes a **Downstream Projects** section showing **PES1UG20CS385-2** with a green status icon. Below this is a **Permalinks** section with a list of links to build information:

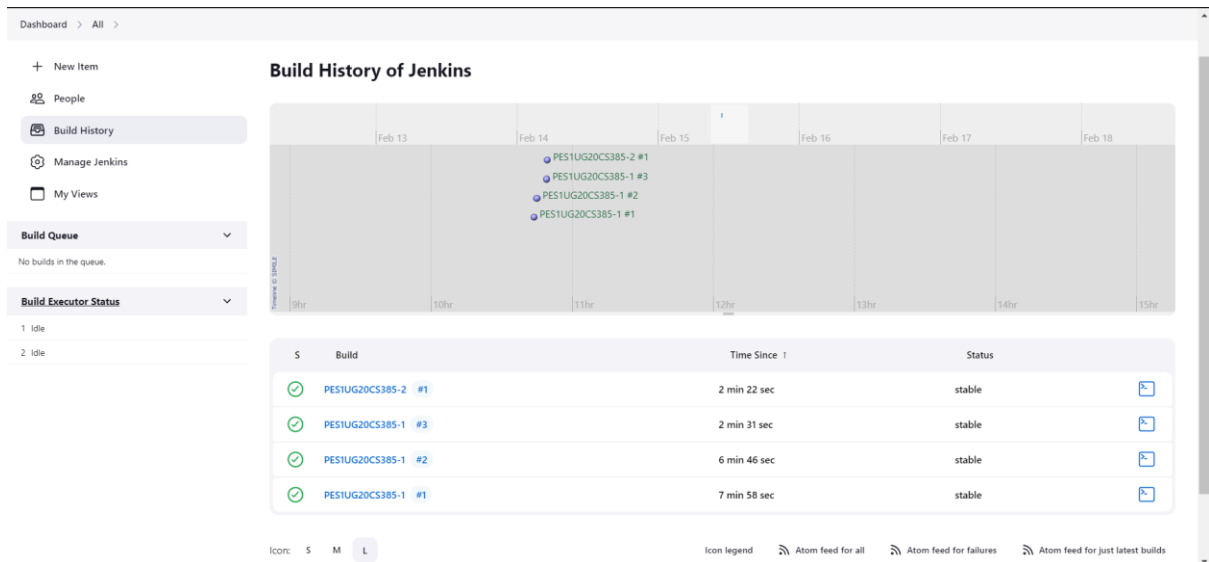
- Last build (#3), 1 min 29 sec ago
- Last stable build (#3), 1 min 29 sec ago
- Last successful build (#3), 1 min 29 sec ago
- Last completed build (#3), 1 min 29 sec ago

At the bottom left, there is a **Build History** section with a **trend** dropdown and a filter input. It lists the following builds:

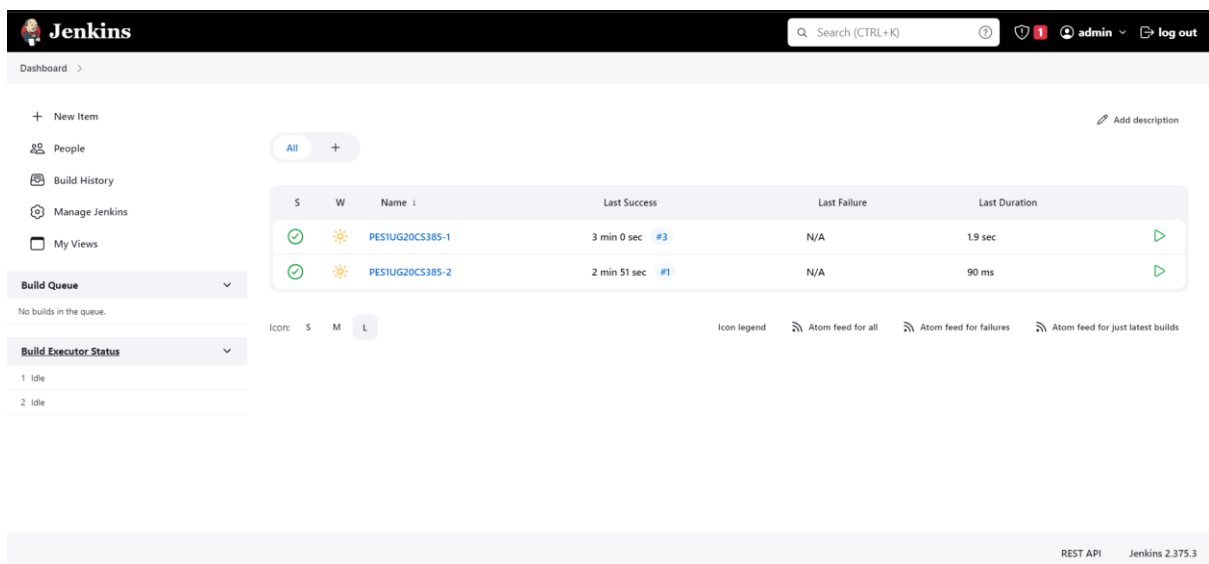
- #3 | Feb 15, 2023 10:49 AM
- #2 | Feb 15, 2023 10:44 AM
- #1 | Feb 15, 2023 10:43 AM

At the top right of the main area, there are links for **Add description** and **Disable Project**.

3. Build History of Jenkins

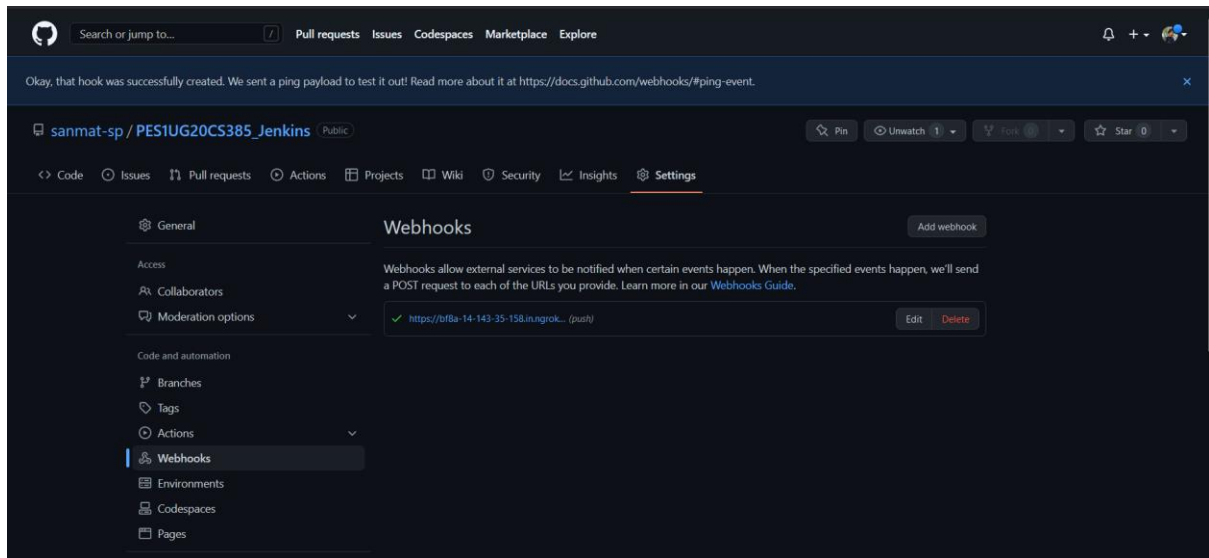


4. Jenkins Dashboard

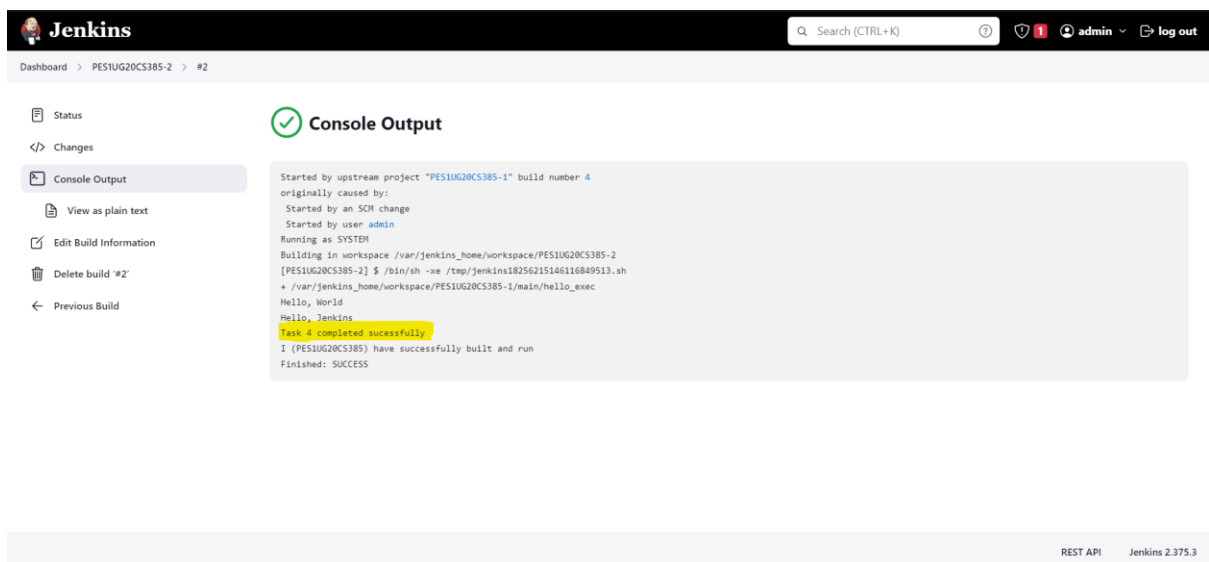


TASK – 4 :

1. Webhook added to your GitHub repository



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



TASK – 5 :

1. Code written to create basic pipeline using GitHub repository

```
1  pipeline {
2      agent any
3
4      stages {
5          stage('Build') {
6              steps {
7                  sh 'g++ -o 385 385.cpp'
8                  build job: 'PES1UG20CS385-1'
9              }
10         }
11
12         stage('Test') {
13             steps {
14                 sh './385'
15             }
16         }
17
18         stage('Deploy') {
19             steps {
20                 echo 'Deployment successfully'
21             }
22         }
23     }
24
25     post {
26         failure {
27             echo 'Pipeline failed'
28         }
29     }
30 }
```

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

- Stage view / Execution status of pipeline with all stages succeeded

Pipeline PES1UG20CS385

Stage View

Average stage times:
(Average full run time: ~20s)

	Declarative: Checkout SCM	Build	Test	Deploy
#6 Feb 15 17:33 1 commit	1s	9s	507ms	187ms
#2 Feb 15 17:19 No Changes	1s	13s	371ms	166ms

- Verify Declarative: Post Actions stage succeed for handling failures

Stage Logs (Declarative: Post Actions)

Print Message --- Pipeline failed (self time 45ms)

Pipeline failed

Changes

Build Now

Configure

Delete Pipeline

Full Stage View

Rename

Pipeline Syntax

Build History trend

Filter builds...

#10 Feb 15, 2023, 12:20 PM

#6 Feb 15, 2023, 12:03 PM

#2 Feb 15, 2023, 11:49 AM

#1

Stage View

Average stage times:
(Average full run time: ~20s)

	Declarative: Checkout SCM	Build	Test	Deploy	Declarative: Post Actions
#10 Feb 15 17:50 4 commits	1s	13s	403ms	920ms failed	260ms
#6 Feb 15 17:33 1 commit	1s	9s	507ms	187ms	
#2 Feb 15 17:19 No Changes	1s	13s	371ms	166ms	

Permalinks

3. Console Output of the Pipeline (Successful Pipeline)

- Build and Test stage

```
Commit message: "Update Jenkinsfile"
[Pipeline] }
[Pipeline] // stage
[Pipeline] withEnv
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Build)
[Pipeline] sh
+ g++ -o 385 385.cpp
[Pipeline] build (Building PES1UG20CS385-1)
Scheduling project: PES1UG20CS385-1
Starting building: PES1UG20CS385-1 #13
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Test)
[Pipeline] sh
+ ./385
Task 5 completed successfully (PES1UG20CS385)
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Deploy)
[Pipeline] echo
```

- Deployment and Success

```
Deployment successfully
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```


4. Link to the created GitHub repository

[https://github.com/sanmat-sp/PES1UG20CS385 Jenkins](https://github.com/sanmat-sp/PES1UG20CS385_Jenkins)