

# Cloud Computing: UE20CS252

## Assignment 2 – Jenkins (Creating a DevOps Pipeline, CI/CD tool)

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PES1UG20CS260

### Screenshots:

#### Task 1:

##### 1. Screenshot of the running Docker Container after installing Jenkins

```
pes1ug20cs260@pes1ug20cs260:~/Desktop/WW/CC/A2/Jenkins_lab-main$ sudo docker run -p 8080:8080 -p 50000:50000 -it jenkins:PES1UG20CS260
Running from: /usr/share/jenkins/jenkins.war
webroot: EnvVars.masterEnvVars.get("JENKINS_HOME")
2023-02-15 05:40:35.939+0000 [id=1] INFO winstone.Logger#logInternal: Beginning extraction from war file
2023-02-15 05:40:37.422+0000 [id=1] WARNING o.e.j.s.handler.ContextHandler#setContextPath: Empty contextPath
2023-02-15 05:40:37.500+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: Jetty-10.0.12; built: 2022-09-14T01:54:40.076Z; gtt: 400d01390807e27a57b54ed52e2d92a36731a7e08; jvn 11.0.18+10
2023-02-15 05:40:38.035+0000 [id=1] INFO o.e.j.w.StandardDescriptorProcessor#visitServlet: NO JSP Support for /, did not find org.eclipse.jetty.jsp.JettyJspServlet
2023-02-15 05:40:38.108+0000 [id=1] INFO o.e.j.s.s.DefaultSessionIdManager#doStart: Session workerName=node0
2023-02-15 05:40:38.699+0000 [id=1] INFO hudson.WebAppMain#contextInitialized: Jenkins home directory: /var/jenkins_home found at: EnvVars.masterEnvVars.get("JENKINS_HOME")
2023-02-15 05:40:39.094+0000 [id=1] INFO o.e.j.s.handler.ContextHandler#doStart: Started w.@cd56321[jenkins v2.375.3,/,file:///var/jenkins_home/war/_AVAILABLE/]{var/jenkins_home/war}
2023-02-15 05:40:39.131+0000 [id=1] INFO o.e.j.server.AbstractConnector#doStart: Started ServerConnector@2e9fd869[HTTP/1.2, (http/1.1)]{0.0.0.0:8080}
2023-02-15 05:40:39.175+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: Started Server@40f70521[STARTING][10.0.12,store=] @3855ms
2023-02-15 05:40:39.183+0000 [id=24] INFO winstone.Logger#logInternal: Winstone Servlet Engine running: controlPort=disabled
2023-02-15 05:40:39.510+0000 [id=31] INFO jenkins.InitReactorRunner$1#onAttained: Started initialization
2023-02-15 05:40:39.565+0000 [id=32] INFO jenkins.InitReactorRunner$1#onAttained: Listed all plugins
2023-02-15 05:40:40.436+0000 [id=33] INFO jenkins.InitReactorRunner$1#onAttained: Prepared all plugins
2023-02-15 05:40:40.441+0000 [id=33] INFO jenkins.InitReactorRunner$1#onAttained: Started all plugins
2023-02-15 05:40:40.465+0000 [id=29] INFO jenkins.InitReactorRunner$1#onAttained: Augmented all extensions
2023-02-15 05:40:40.821+0000 [id=31] INFO jenkins.InitReactorRunner$1#onAttained: System config loaded
2023-02-15 05:40:40.823+0000 [id=34] INFO jenkins.InitReactorRunner$1#onAttained: System config adapted
2023-02-15 05:40:40.823+0000 [id=34] INFO jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2023-02-15 05:40:40.826+0000 [id=34] INFO jenkins.InitReactorRunner$1#onAttained: Configuration for all jobs updated
2023-02-15 05:40:40.913+0000 [id=49] 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.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 05:40:41.433+0000 [id=33] 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:

e6260386293b485c9f5430b3a4fe25fa

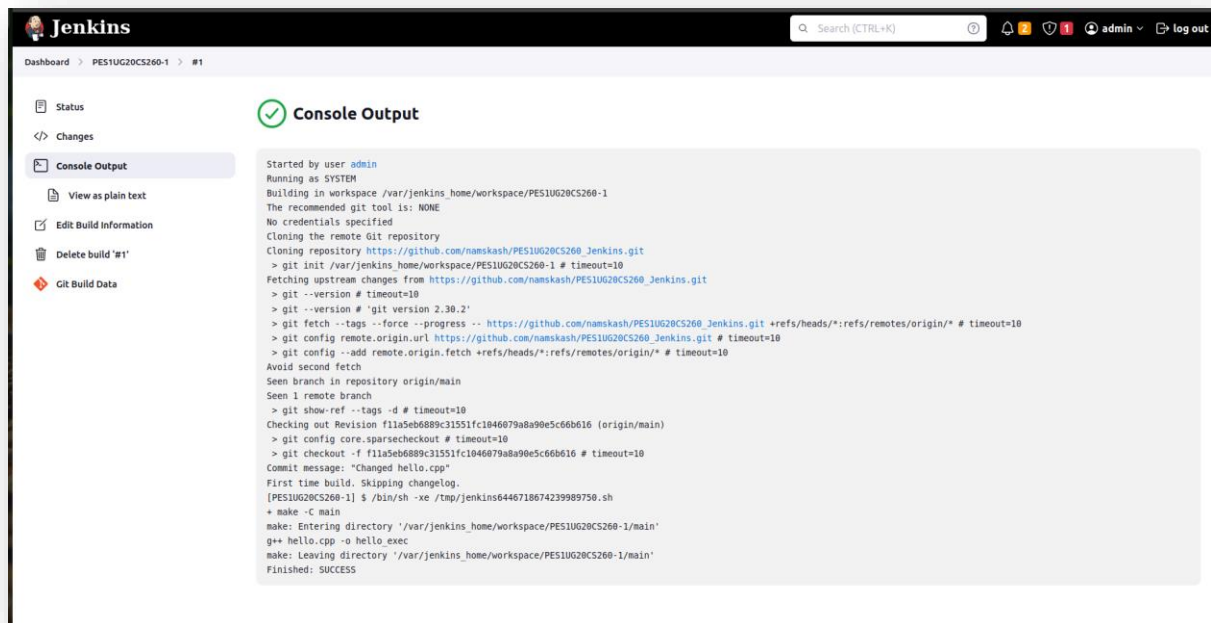
This may also be found at: /var/jenkins_home/secrets/initialAdminPassword

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

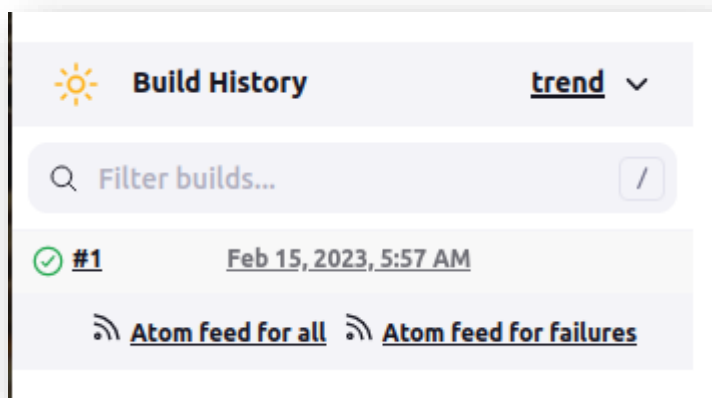
2023-02-15 05:41:10.084+0000 [id=33] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
2023-02-15 05:41:10.156+0000 [id=23] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running
2023-02-15 05:41:13.510+0000 [id=49] INFO h.m.DownloadService$Downloadable#load: Obtained the updated data file for hudson.tasks.Maven.MavenInstaller
2023-02-15 05:41:13.511+0000 [id=49] INFO hudson.util.Retrier#start: Performed the action check updates server successfully at the attempt #1
```

## Task 2:

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

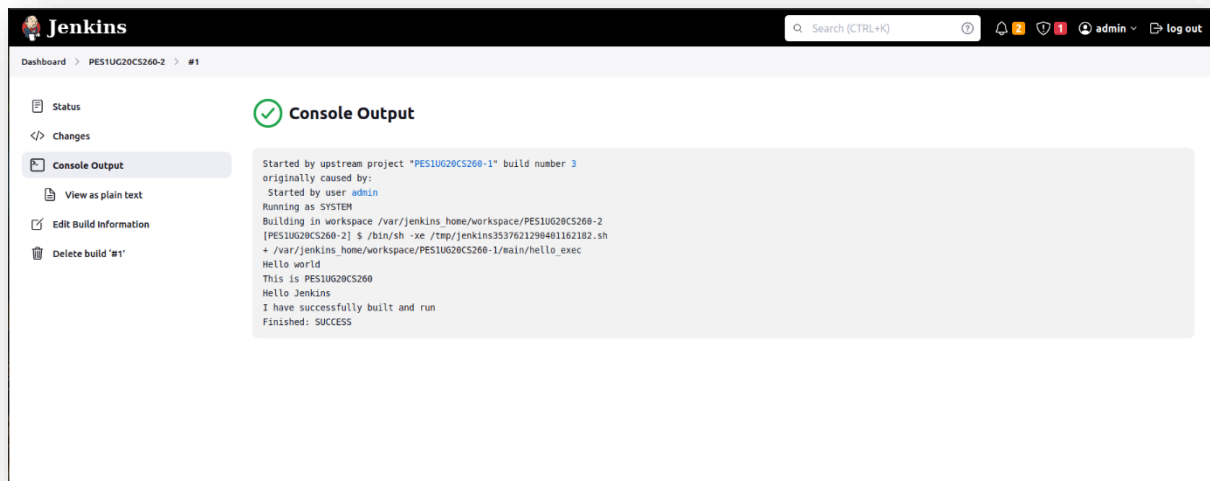


2. Picture showing the Stable state of the task in Build History of Jenkins

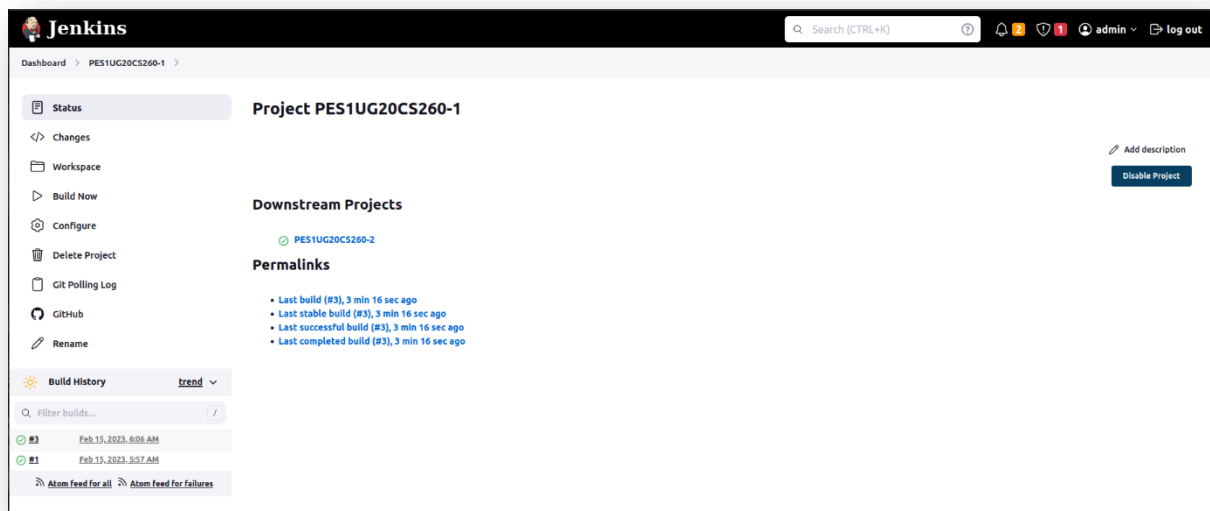


### Task 3:

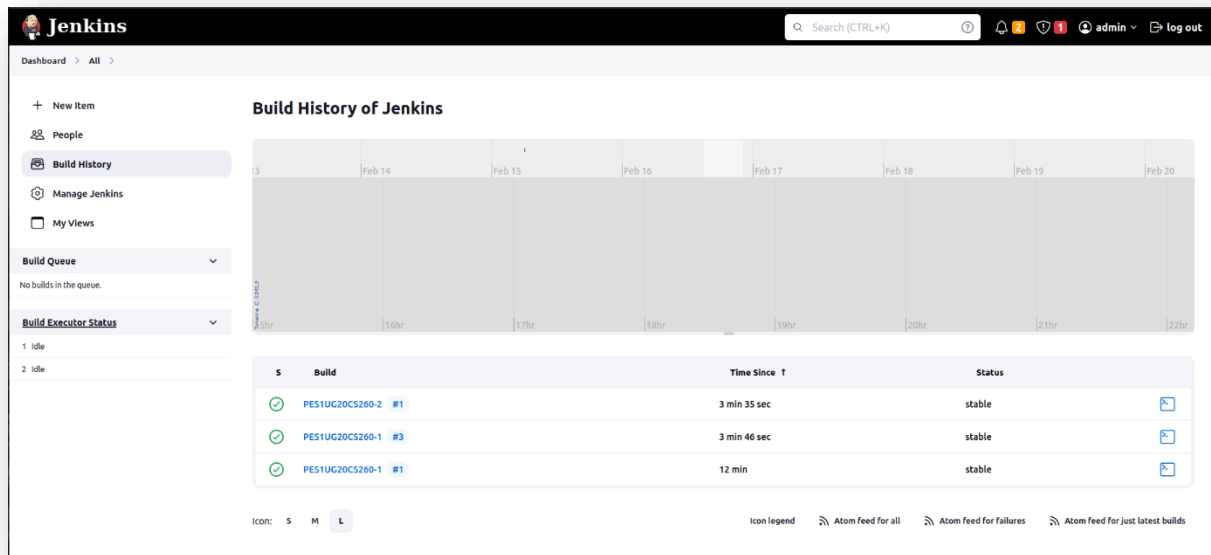
#### 1. Console output of second job



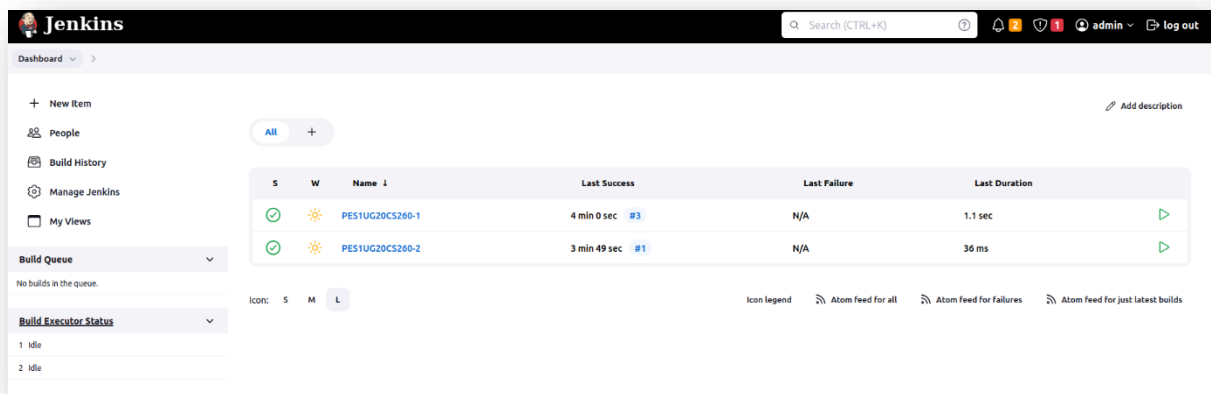
#### 2. Status page of first job



#### 3. Build History of Jenkins

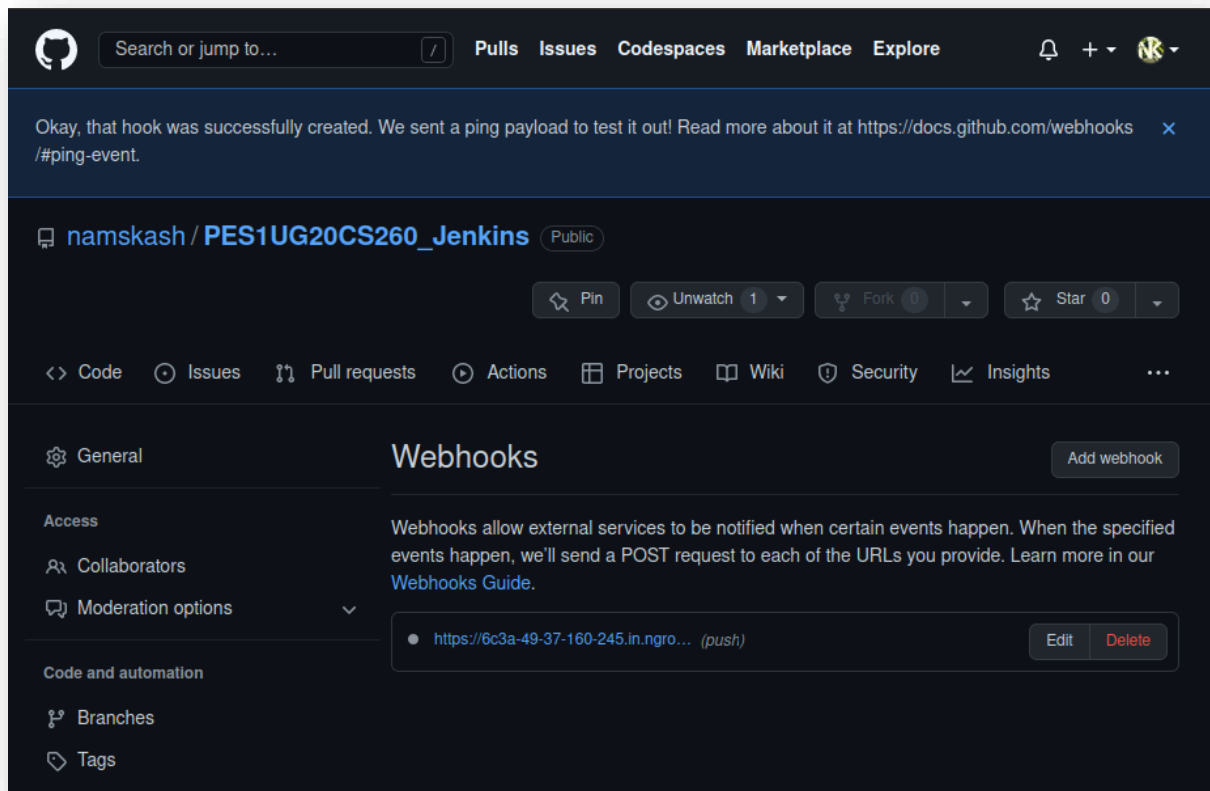


#### 4. Jenkins Dashboard




#### Task 4:

##### 1. Webhook added to your GitHub repository



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

 **Jenkins**

Search (CTRL+K) ?

2 1

Dashboard > PES1UG20CS260-2 > #2

Status

Changes


Console Output

View as plain text

Edit Build Information

Delete build '#2'

Previous Build

 **Console Output**

```
Started by upstream project "PES1UG20CS260-1" build number 3
originally caused by:
  Started by an SCM change
Running as SYSTEM
Building in workspace /var/jenkins_home/workspace/PES1UG20CS260-2
[PES1UG20CS260-2] $ /bin/sh -xe /tmp/jenkins4500502014519297194.sh
+ /var/jenkins_home/workspace/PES1UG20CS260-1/main/hello_exec
Hello world
This is PES1UG20CS260
Hello Jenkins
I have successfully built and run
I have made changes to my hello.cpp file!
Finished: SUCCESS
```

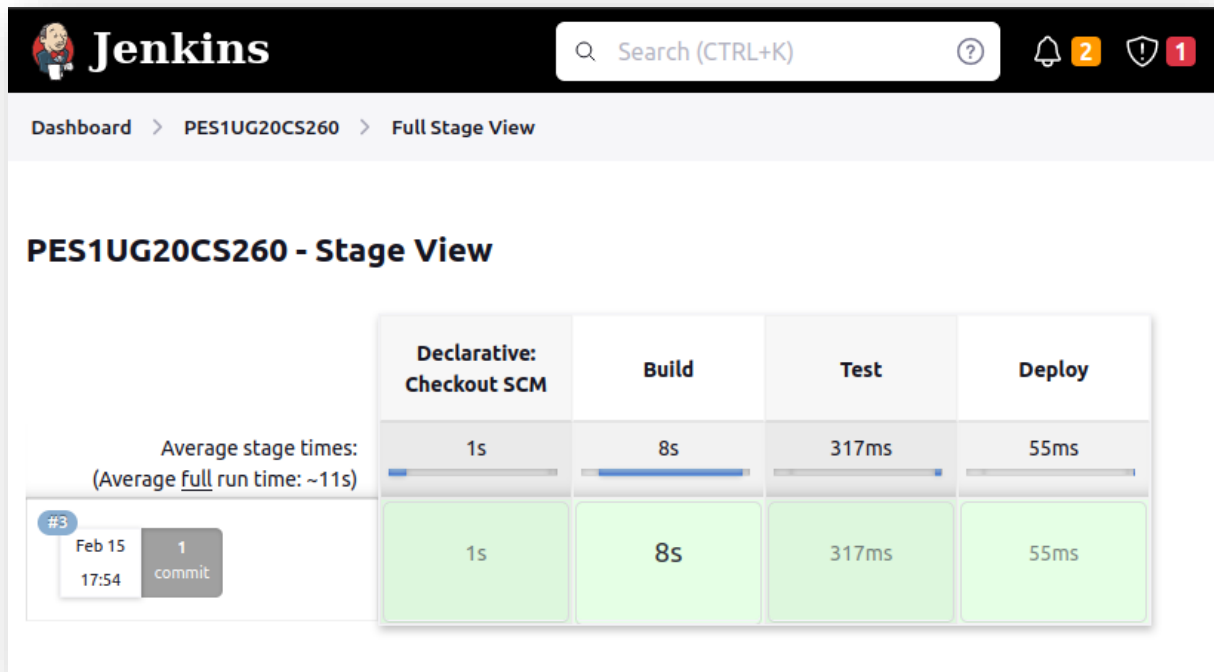
## Task 5:

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

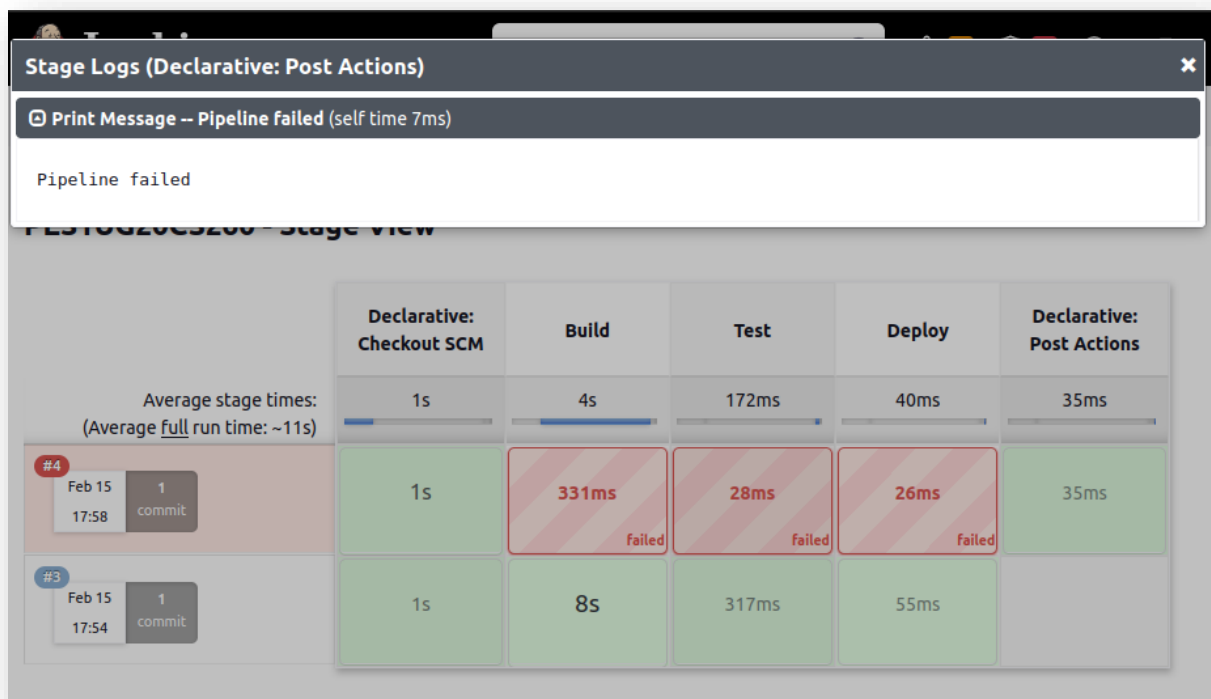
```
40 lines (36 sloc) | 382 Bytes
Raw Blame Edit View
1 pipeline
2 {
3     agent any
4
5     stages
6     {
7         stage('Build')
8         {
9             steps
10            {
11                sh 'g++ -o PES1UG20CS260_task5 PES1UG20CS260_task5.cpp'
12                build job: 'PES1UG20CS260-1'
13            }
14        }
15
16        stage('Test')
17        {
18            steps
19            {
20                sh './PES1UG20CS260_task5'
21            }
22        }
23
24        stage('Deploy')
25        {
26            steps
27            {
28                echo 'Deployment'
29            }
30        }
31    }
32
33    post
34    {
35        failure
36        {
37            echo 'Pipeline failed'
38        }
39    }
40 }
```

### 2. Output of working created pipeline:

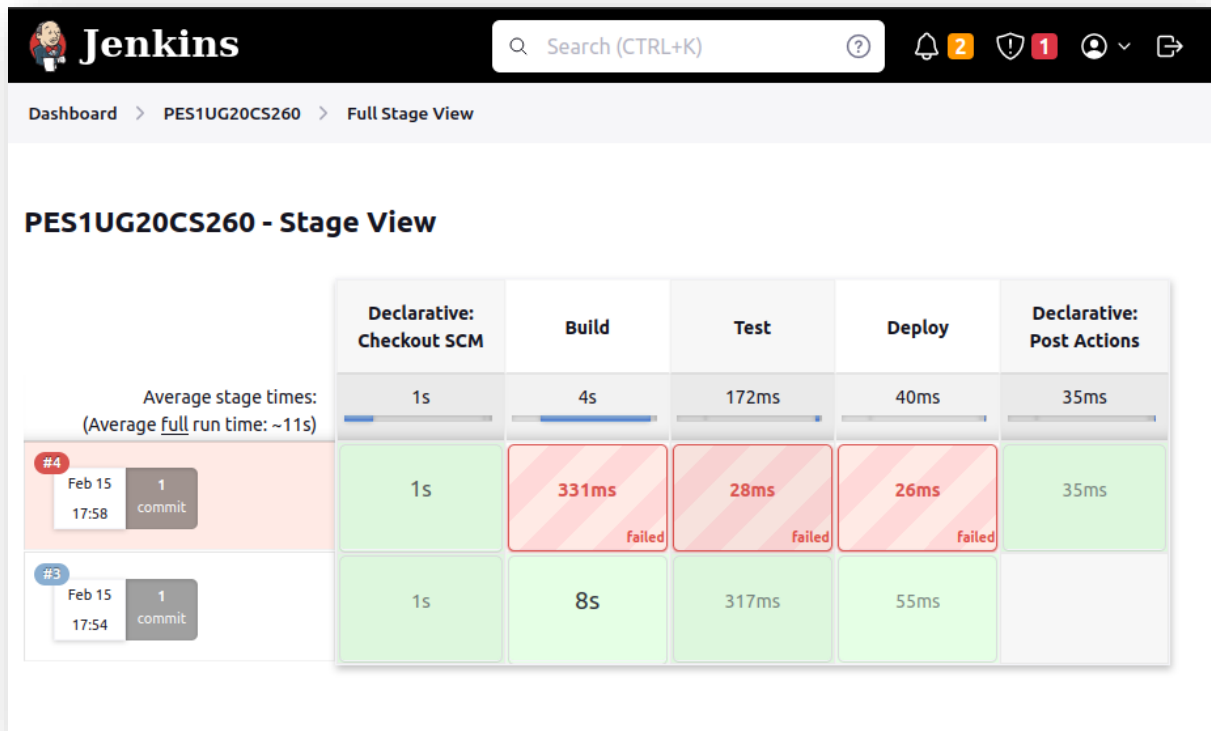
- Stage view / Execution status of pipeline with all stages succeeded



- Verify Declarative: Post Actions stage succeed for handling failures.







### 3. Console Output of the Pipeline

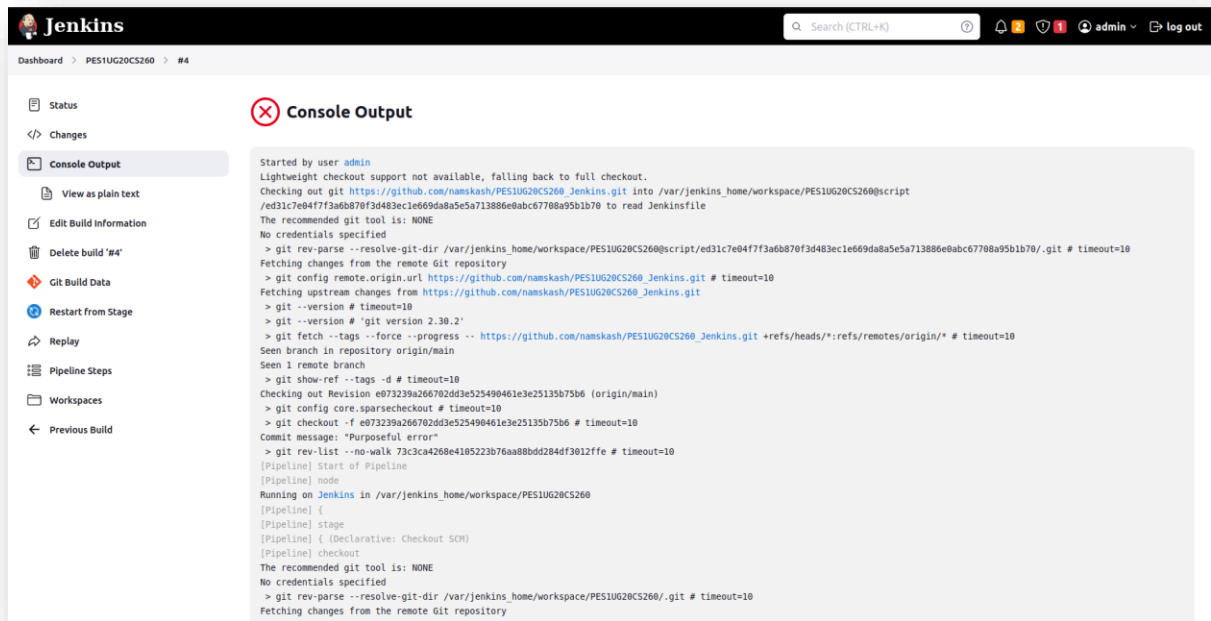
#### SUCCESS

```

Started by user admin
Lightweight checkout support not available, falling back to full checkout.
Checking out git https://github.com/namaskash/PES1UG20CS260_Jenkins.git into /var/jenkins_home/workspace/PES1UG20CS260@script
/ed31c7e04f7f3a6b870f3d483ec1e669da8a5e5a713886e0abc67708a95b1b70 to read Jenkinsfile
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/jenkins_home/workspace/PES1UG20CS260@script/ed31c7e04f7f3a6b870f3d483ec1e669da8a5e5a713886e0abc67708a95b1b70/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/namaskash/PES1UG20CS260_Jenkins.git # timeout=10
Fetching upstream changes from https://github.com/namaskash/PES1UG20CS260_Jenkins.git
> git --version # timeout=10
> git --version # 'git version 2.30.2'
> git fetch --tags --force --progress -- https://github.com/namaskash/PES1UG20CS260_Jenkins.git +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 73c3ca4268e4105223b76aa88bd284df3012ffe (origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 73c3ca4268e4105223b76aa88bd284df3012ffe # timeout=10
Commit message: "Changed directory"
> git rev-list --no-walk aee43c9642e17202769b01eb844f07ecf87164fb # timeout=10
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/jenkins_home/workspace/PES1UG20CS260
[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/PES1UG20CS260/.git # timeout=10
Fetching changes from the remote Git repository

```

## FAILURE



#### 4. Link to the created GitHub repository

**Link:** [https://github.com/namskash/PES1UG20CS260\\_Jenkins.git](https://github.com/namskash/PES1UG20CS260_Jenkins.git)