

# Cloud Computing: UE20CS352

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

-Adithya M, Section K

-PES1UG20CS621

### 1) Task 1

```
Command Prompt - docker r x + v
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
2023-02-14 03:09:05.512+0000 [id=41] 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:

7eb321e5ac514886bbde2c24d9369bf0

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

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

2023-02-14 03:09:25.161+0000 [id=69] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
2023-02-14 03:09:25.177+0000 [id=32] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running
2023-02-14 03:09:25.948+0000 [id=84] INFO h.m.DownloadService$Downloadable#load: Obtained the updated data file for hudson.tasks.Maven.MavenInstaller
2023-02-14 03:09:25.949+0000 [id=84] INFO hudson.util.Retrier#start: Performed the action check updates se
```

### 2) Task 2

The screenshot shows the Jenkins web interface. The top navigation bar includes the Jenkins logo, a search bar, and the user name 'Adithya M' with a 'log out' button. The main content area is titled 'Dashboard > PES1UG20CS621-1 > #2'. On the left sidebar, there are links for 'Status', 'Changes', 'Console Output' (which is selected), 'View as plain text', 'Edit Build Information', 'Delete build #2', 'Git Build Data', and 'Previous Build'. The 'Console Output' section shows a green checkmark icon and the text 'Console Output'. The output text is as follows:

```
Started by user Adithya M
Running as SYSTEM
Building in workspace /var/jenkins_home/workspace/PES1UG20CS621-1
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/jenkins_home/workspace/PES1UG20CS621-1/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/adithya-m08/PES1UG20CS621_jenkins.git # timeout=10
Fetching upstream changes from https://github.com/adithya-m08/PES1UG20CS621_jenkins.git
> git --version # timeout=10
> git --version # 'git version 2.30.2'
> git fetch --tags --force --progress -- https://github.com/adithya-m08/PES1UG20CS621_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 7939f58907881b67870029564a641afba28a125b (origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 7939f58907881b67870029564a641afba28a125b # timeout=10
Commit message: "Add files via upload"
> git rev-list --no-walk 7939f58907881b67870029564a641afba28a125b # timeout=10
[PES1UG20CS621-1] $ /bin/sh -xe /tmp/jenkins13675540134069619652.sh
+ make -C main
make: Entering directory '/var/jenkins_home/workspace/PES1UG20CS621-1/main'
make: 'hello.exe' is up to date.
make: Leaving directory '/var/jenkins_home/workspace/PES1UG20CS621-1/main'
Finished: SUCCESS
```

 Rename



Build History

trend ▾

🔍 Filter builds...

✓ #2

| Feb 14, 2023, 3:30 AM

✓ #1

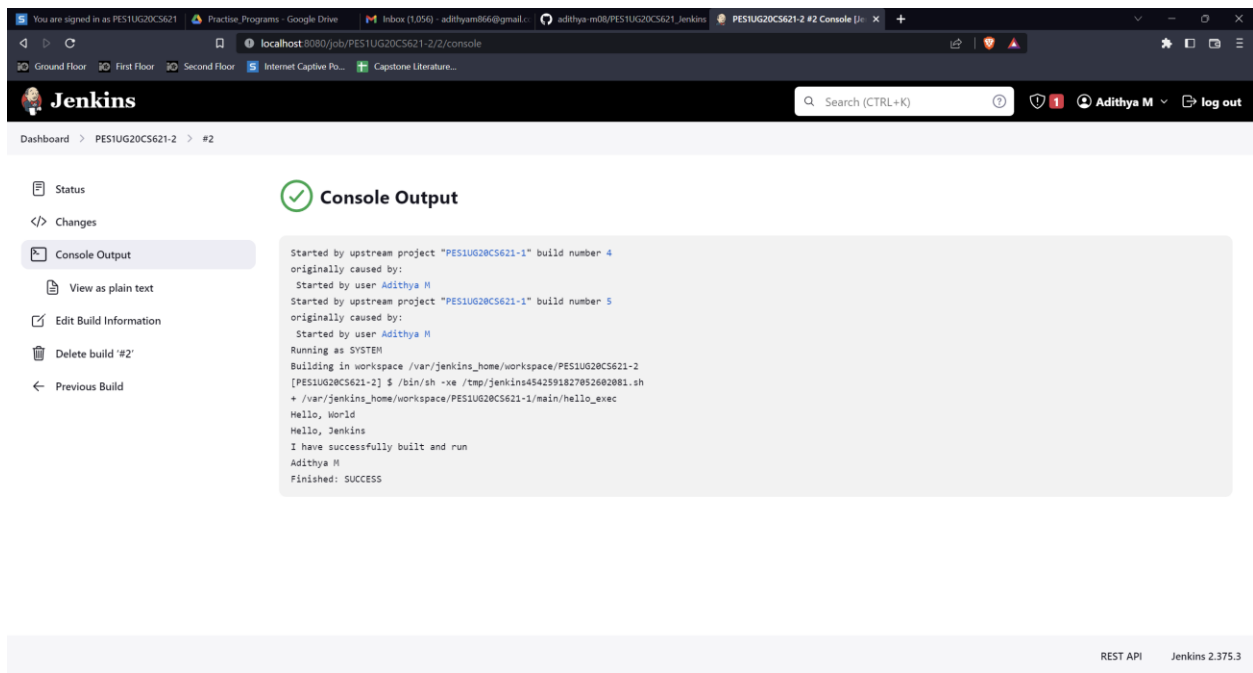
| Feb 14, 2023, 3:30 AM

📡 Atom feed for all

📡 Atom feed for failures

### 3) Task 3:

Console output of second job



The screenshot shows the Jenkins web interface. The top navigation bar includes the Jenkins logo, a search bar, and user information (Adithya M). The main content area displays the console output for build #2 of the 'PES1UG20CS621-2' job. The output text is as follows:

```
Started by upstream project "PES1UG20CS621-1" build number 4
originally caused by:
Started by user Adithya M
Started by upstream project "PES1UG20CS621-1" build number 5
originally caused by:
Started by user Adithya M
Running as SYSTEM
Building in workspace /var/jenkins_home/workspace/PES1UG20CS621-2
[PES1UG20CS621-2] $ /bin/sh -xe /tmp/jenkins4542991827852602081.sh
+ /var/jenkins_home/workspace/PES1UG20CS621-1/main/hello_exec
Hello, World
Hello, Jenkins
I have successfully built and run
Adithya M
Finished: SUCCESS
```

The bottom of the page shows the footer with 'REST API' and 'Jenkins 2.375.3'.

Status page of first job

Project PES1UG20CS621-1

Build History

Builds:

- #5 Feb 14, 2023 3:42 AM
- #4 Feb 14, 2023 3:42 AM
- #3 Feb 14, 2023 3:40 AM

## Build History of Jenkins

Build History of Jenkins

Build Queue

Build Executor Status

S	Build	Time Since	Status
✓	PES1UG20CS621-2 #2	4 min 1 sec	stable
✓	PES1UG20CS621-1 #5	4 min 3 sec	stable
✓	PES1UG20CS621-1 #4	4 min 7 sec	stable
✓	PES1UG20CS621-2 #1	6 min 1 sec	stable
✓	PES1UG20CS621-1 #3	6 min 8 sec	stable

## Jenkins Dashboard

The screenshot shows the Jenkins Dashboard interface. On the left, there's a sidebar with navigation links: New Item, People, Build History, Manage Jenkins, and My Views. Below these are sections for 'Build Queue' (showing 'No builds in the queue') and 'Build Executor Status' (showing 1 idle and 2 idle executors). The main area displays a table of recent builds:

S	W	Name	Last Success	Last Failure	Last Duration
✓	☀	PES1UG20CS621-1	4 min 30 sec #5	N/A	1.7 sec
✓	☀	PES1UG20CS621-2	4 min 27 sec #2	N/A	10 ms

Below the table, there's an 'Icon legend' and links for 'Atom feed for all', 'Atom feed for failures', and 'Atom feed for just latest builds'. The bottom right corner shows 'REST API' and 'Jenkins 2.375.3'.

## 4) Task 4


Webhook added to your GitHub repository





The screenshot shows the GitHub repository settings page for 'adithya-m08 / PES1UG20CS621\_Jenkins'. The 'Webhooks' tab is selected in the left sidebar. The main content area shows the 'Webhooks' configuration:

- General:** Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our [Webhooks Guide](#).
- Access:** Collaborators, Moderation options.
- Code and automation:** Branches, Tags, Actions, **Webhooks** (selected), Environments, Codespaces, Pages.
- Security:** Code security and analysis, Deploy keys, Secrets and variables.
- Integrations:**

Under the 'Webhooks' section, a single webhook is listed with the URL 'https://d5db-122-172-82-7.in.ngrok.io (push)'. There are 'Add webhook', 'Edit', and 'Delete' buttons.

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

 **Jenkins**

Search (CTRL+K)    Adithya M  [log out](#)

Dashboard > PES1UG20CS621-2 > #2

Status

</> Changes


Console Output

View as plain text

Edit Build Information

Delete build '#2'

< Previous Build



 **Console Output**


Started by upstream project "PES1UG20CS621-1" build number 3  
originally caused by:  
Started by an SCM change  
Running as SYSTEM  
Building in workspace /var/jenkins\_home/workspace/PES1UG20CS621-2  
[PES1UG20CS621-2] \$ /bin/sh -xe /tmp/jenkins16237538587706602476.sh  
+ /var/jenkins\_home/workspace/PES1UG20CS621-1/main/hello\_exec  
Hello, World  
Hello, Jenkins  
I have successfully built and run  
Adithya M  
Task 3 addedTask 4 addedFinished: SUCCESS

REST API Jenkins 2.375.3

## 5) Task 5:




Code/script written to create basic pipeline using GitHub repository:

 main **PES1UG20CS621\_Jenkins / Jenkinsfile** [Go to file](#) 

 **adithya-m08** Update Jenkinsfile Latest commit 55b99f4 2 minutes ago [History](#)

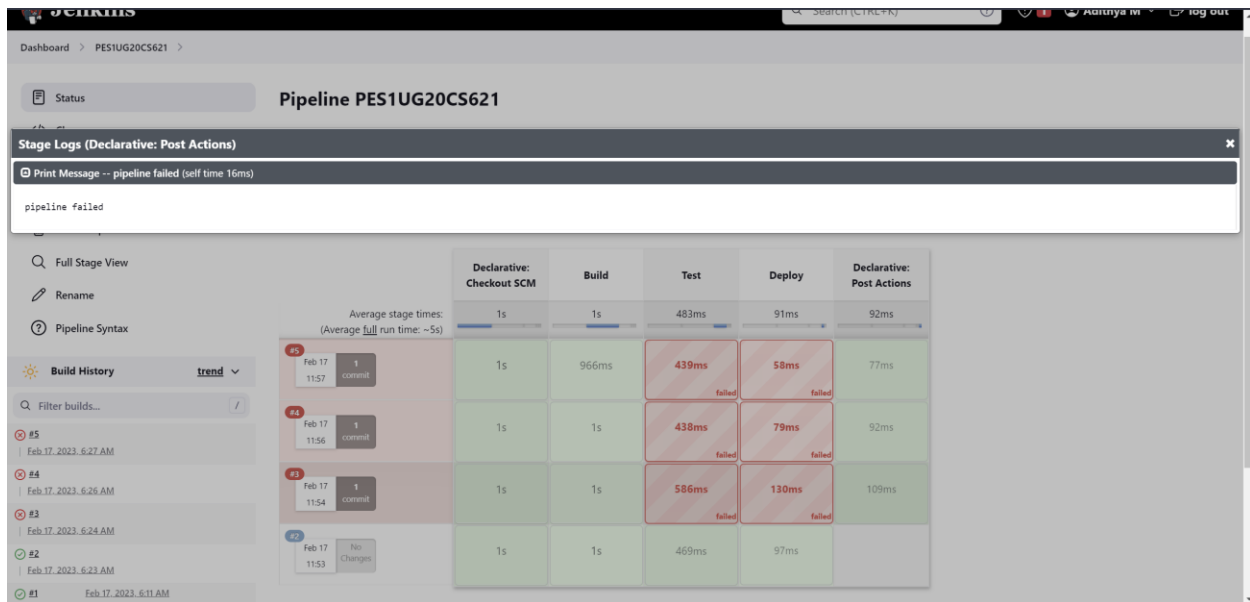
1 contributor

28 lines (28 sloc) 600 Bytes 

Raw Blame   

```
1 pipeline{
2   agent any
3   stages{
4     stage('Build'){
5       steps{
6         sh 'g++ -c main/jenkinstest.cpp'
7         sh 'g++ -o jenkinstest main/jenkinstest.cpp'
8         echo 'build stage successfull'
9       }
10    }
11    stage('Test'){
12      steps{
13        sh './jenkinstestu'
14        echo 'Test 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 }
```

## Stage View



## Console Output of the Pipeline:

**Jenkins**

Search (CTRL+K)

Adithya M

log out

Dashboard > PES1UG20CS621 > #2

Status

Changes

Console Output

View as plain text

Edit Build Information

Delete build '#2'

Git Build Data

Restart from Stage

Replay


Pipeline Steps





Workspaces

Previous Build

**Console Output**

```
Started by user Adithya M
Lightweight checkout support not available, falling back to full checkout.
Checking out git https://github.com/adithya-m08/PES1UG20CS621_Jenkins.git into
/var/jenkins_home/workspace/PES1UG20CS621@script/f52100fe145140164d3db5f3b3af761ca687c72369df79a04b5a602eaca497ed/
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/jenkins_home/workspace/PES1UG20CS621@script/f52100fe145140164d3db5f3b3af761ca687c72369df79a04b5a602eaca497ed/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/adithya-m08/PES1UG20CS621_Jenkins.git # timeout=10
Fetching upstream changes from https://github.com/adithya-m08/PES1UG20CS621_Jenkins.git
> git --version # timeout=10
> git --version # 'git version 2.30.2'
> git fetch --tags --progress -- https://github.com/adithya-m08/PES1UG20CS621_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 ca7167d0b00280a5da27fbaf626ae38aa5b73cea (origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f ca7167d0b00280a5da27fbaf626ae38aa5b73cea # timeout=10
Commit message: "Update Jenkinsfile"
> git rev-list --no-walk 55b99f43af226c556cb48b438ee0f04db65daca6 # timeout=10
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/jenkins_home/workspace/PES1UG20CS621
[Pipeline] {
[Pipeline] stage
```

 Jenkins

Search (CTRL+K)    Adithya M  log out

Dashboard > PES1UG20CS621 > #1

Status

</> Changes

Console Output

View as plain text

Edit Build Information

Delete build '#1'

Git Build Data

Restart from Stage

Replay

Pipeline Steps

Workspaces

ⓧ Console Output

Started by user Adithya M

Lightweight checkout support not available, falling back to full checkout.

Checking out git [https://github.com/adithya-m08/PES1UG20CS621\\_Jenkins.git](https://github.com/adithya-m08/PES1UG20CS621_Jenkins.git) into /var/jenkins\_home/workspace/PES1UG20CS621@script/f52100fe145140164d3db5f3b3af761ca687c72369df79a04b5a602eaca497ed to read Jenkinsfile

The recommended git tool is: NONE

No credentials specified

Cloning the remote Git repository

Cloning repository [https://github.com/adithya-m08/PES1UG20CS621\\_Jenkins.git](https://github.com/adithya-m08/PES1UG20CS621_Jenkins.git)

> git init /var/jenkins\_home/workspace/PES1UG20CS621@script/f52100fe145140164d3db5f3b3af761ca687c72369df79a04b5a602eaca497ed # timeout=10

Fetching upstream changes from [https://github.com/adithya-m08/PES1UG20CS621\\_Jenkins.git](https://github.com/adithya-m08/PES1UG20CS621_Jenkins.git)

> git --version # timeout=10

> git --version # 'git version 2.30.2'

> git fetch --tags --force --progress -- [https://github.com/adithya-m08/PES1UG20CS621\\_Jenkins.git](https://github.com/adithya-m08/PES1UG20CS621_Jenkins.git) +refs/heads/\*:refs/remotes/origin/\* # timeout=10

> git config remote.origin.url [https://github.com/adithya-m08/PES1UG20CS621\\_Jenkins.git](https://github.com/adithya-m08/PES1UG20CS621_Jenkins.git) # 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 55b99f43af226c556cb48b438ee0f04db65daca6 (origin/main)

> git config core.sparsecheckout # timeout=10

> git checkout -f 55b99f43af226c556cb48b438ee0f04db65daca6 # timeout=10

Commit message: "Update Jenkinsfile"

First time build. Skipping changelog.

[Pipeline] Start of Pipeline

[Pipeline] node

Link to repo: [https://github.com/adithya-m08/PES1UG20CS621\\_Jenkins.git](https://github.com/adithya-m08/PES1UG20CS621_Jenkins.git)