FINAL PROJECT

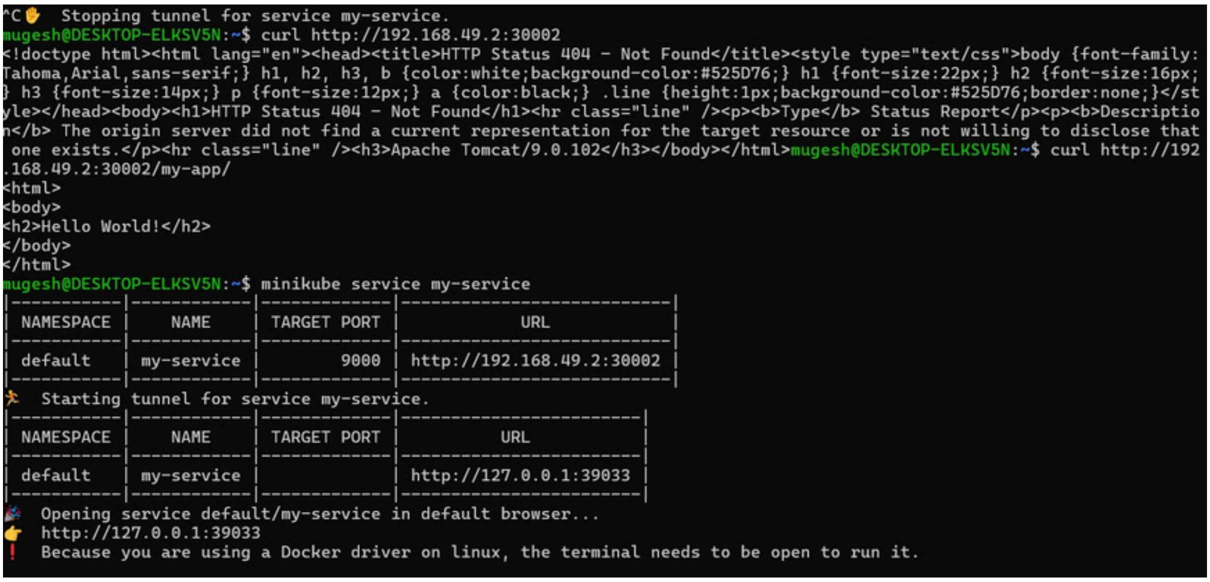
DevOps-Day06:

JAVA APPLICATION DEPLOYEMENT IN MINIKUBE

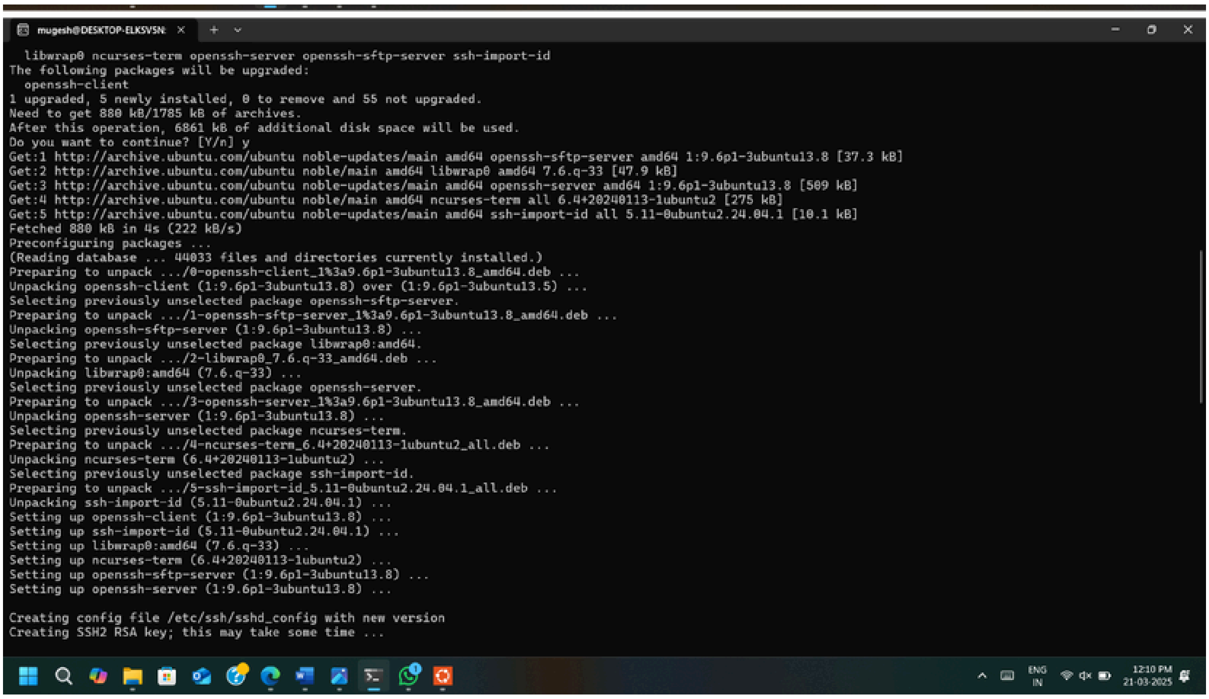
PIPELINE:

```
pipeline {
    agent any

    stages {
        stage('SCM') {
            steps {
                git branch: 'main', url: 'https://github.com/MugeshS-04/guvidevopsday1.git'
            }
        }
        stage('Build-clean') {
            steps{
                sh 'mvn clean'
            }
        }
              stage('Build-validate') {
            steps{
                            sh 'mvn validate'
            }
        }
```

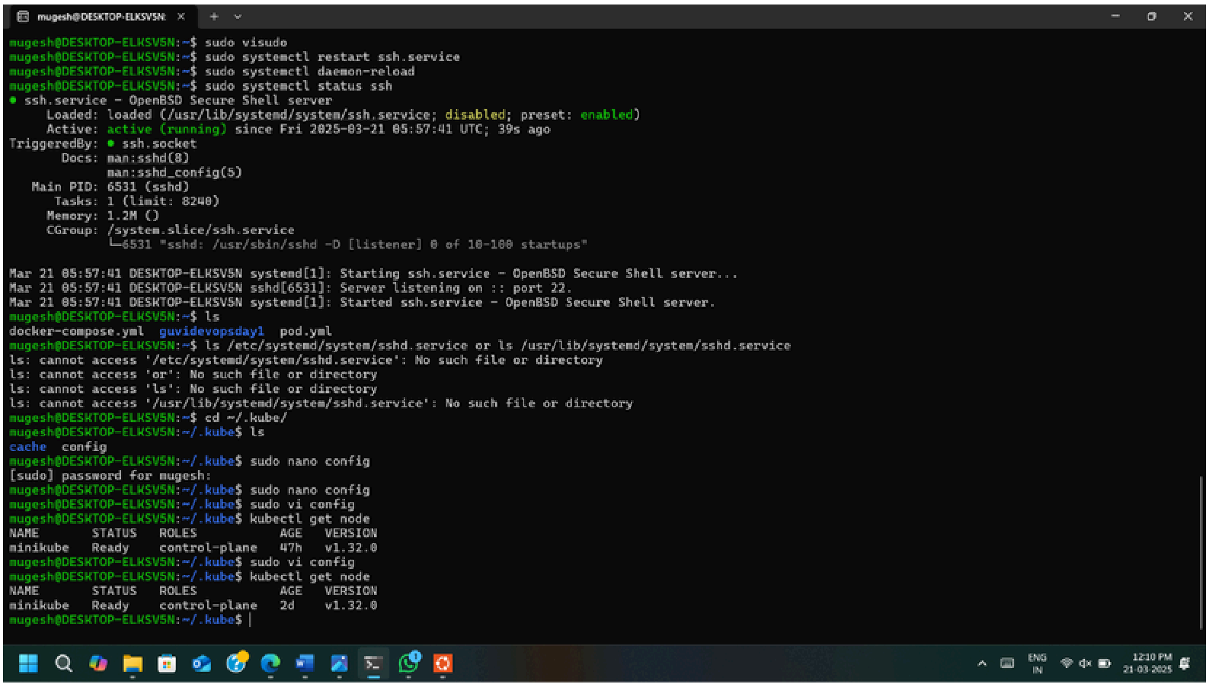
```
               stage('Build-compile') {
            steps{
                              sh 'mvn compile'
            }
        }
               stage('Build-test') {
            steps{
                              sh 'mvn test'
            }
        }
               stage('Build-package') {
            steps{
                              sh 'mvn package'
            }
        }
        stage('build to images') {
            steps {
            script{
                sh "docker build -t mugeshs04/webapplication ."
            }
            }
        }
        stage('docker push hub') {
            steps {
            script{
               withDockerRegistry(credentialsId: 'docker-hub-cred', url:
'https://index.docker.io/v1/') {
                sh 'docker push mugeshs04/webapplication'
        }
        }
        }
      }
      stage('deploy webapp') {
        steps{
          withKubeConfig(caCertificate: '', clusterName: 'minikube', contextName: 'minikube', credentialsId: 'minikube-cred', namespace: '', restrictKubeConfigAccess: false, serverUrl: 'https://192.168.39.226:8443') {
            sh 'kubectl apply -f deployment.yml --validate=false'
          }
        }

    }
  }
}
```



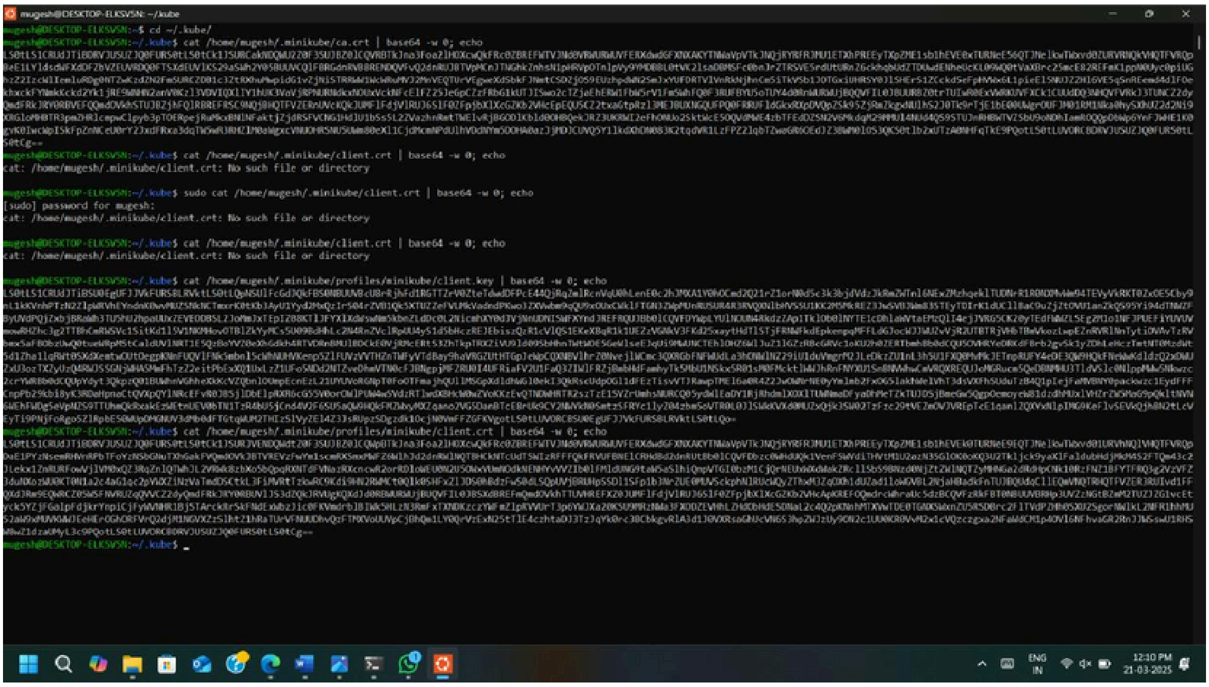
```
^C✋  Stopping tunnel for service my-service.
mugesh@DESKTOP-ELKSV5N:~$ curl http://192.168.49.2:30002
<!doctype html><html lang="en"><head><title>HTTP Status 404 – Not Found</title><style type="text/css">body {font-family:
Tahoma,Arial,sans-serif;} h1, h2, h3, b {color:white;background-color:#525D76;} h1 {font-size:22px;} h2 {font-size:16px;
} h3 {font-size:14px;} p {font-size:12px;} a {color:black;} .line {height:1px;background-color:#525D76;border:none;}</st
yle></head><body><h1>HTTP Status 404 – Not Found</h1><hr class="line" /><p><b>Type</b> Status Report</p><p><b>Descriptio
n</b> The origin server did not find a current representation for the target resource or is not willing to disclose that
 one exists.</p><hr class="line" /><h3>Apache Tomcat/9.0.102</h3></body></html>mugesh@DESKTOP-ELKSV5N:~$ curl http://192
.168.49.2:30002/my-app/
<html>
<body>
<h2>Hello World!</h2>
</body>
</html>
mugesh@DESKTOP-ELKSV5N:~$ minikube service my-service
|-----------|------------|-------------|---------------------------|
| NAMESPACE |    NAME    | TARGET PORT |            URL            |
|-----------|------------|-------------|---------------------------|
| default   | my-service |        9000 | http://192.168.49.2:30002 |
|-----------|------------|-------------|---------------------------|
🏃  Starting tunnel for service my-service.
|-----------|------------|-------------|------------------------|
| NAMESPACE |    NAME    | TARGET PORT |          URL           |
|-----------|------------|-------------|------------------------|
| default   | my-service |             | http://127.0.0.1:39033 |
|-----------|------------|-------------|------------------------|
🎉  Opening service default/my-service in default browser...
👉  http://127.0.0.1:39033
❗  Because you are using a Docker driver on linux, the terminal needs to be open to run it.
```



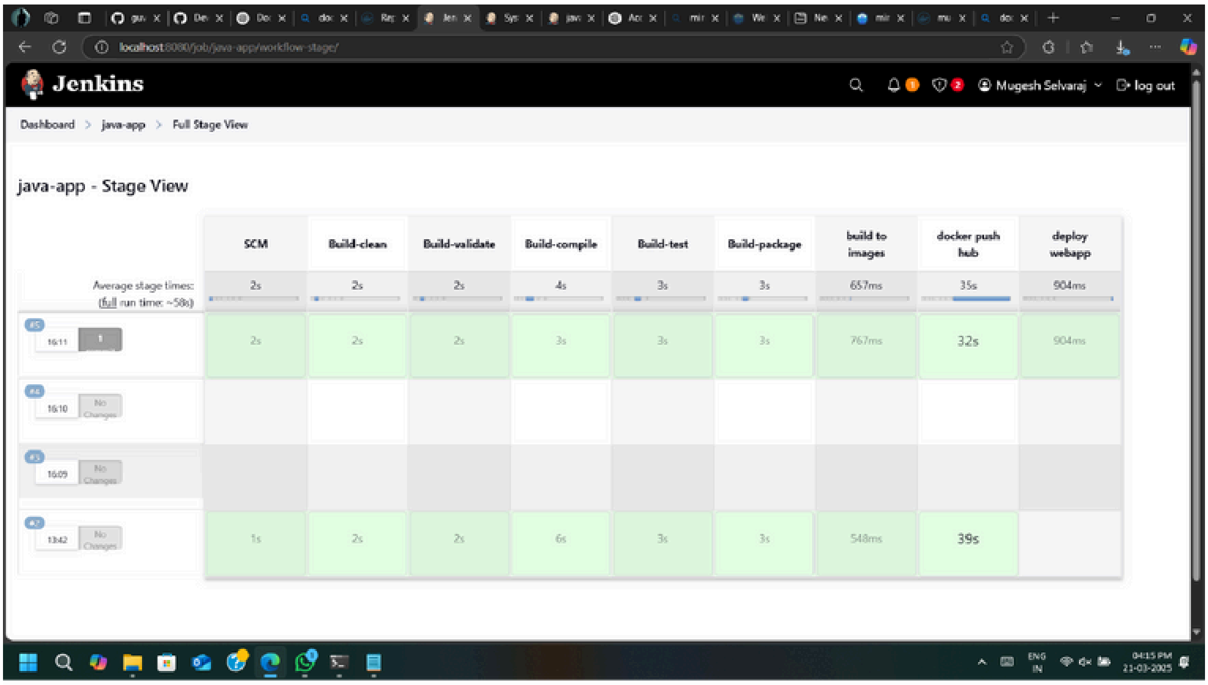
```
  libwrap0 ncurses-term openssh-server openssh-sftp-server ssh-import-id
The following packages will be upgraded:
  openssh-client
1 upgraded, 5 newly installed, 0 to remove and 55 not upgraded.
Need to get 880 kB/1785 kB of archives.
After this operation, 6861 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-sftp-server amd64 1:9.6p1-3ubuntu13.8 [37.3 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/main amd64 libwrap0 amd64 7.6.q-33 [47.9 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-server amd64 1:9.6p1-3ubuntu13.8 [509 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/main amd64 ncurses-term all 6.4+20240113-1ubuntu2 [275 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 ssh-import-id all 5.11-0ubuntu2.24.04.1 [10.1 kB]
Fetched 880 kB in 4s (222 kB/s)
Preconfiguring packages ...
(Reading database ... 44033 files and directories currently installed.)
Preparing to unpack .../0-openssh-client_1%3a9.6p1-3ubuntu13.8_amd64.deb ...
Unpacking openssh-client (1:9.6p1-3ubuntu13.8) over (1:9.6p1-3ubuntu13.5) ...
Selecting previously unselected package openssh-sftp-server.
Preparing to unpack .../1-openssh-sftp-server_1%3a9.6p1-3ubuntu13.8_amd64.deb ...
Unpacking openssh-sftp-server (1:9.6p1-3ubuntu13.8) ...
Selecting previously unselected package libwrap0:amd64.
Preparing to unpack .../2-libwrap0_7.6.q-33_amd64.deb ...
Unpacking libwrap0:amd64 (7.6.q-33) ...
Selecting previously unselected package openssh-server.
Preparing to unpack .../3-openssh-server_1%3a9.6p1-3ubuntu13.8_amd64.deb ...
Unpacking openssh-server (1:9.6p1-3ubuntu13.8) ...
Selecting previously unselected package ncurses-term.
Preparing to unpack .../4-ncurses-term_6.4+20240113-1ubuntu2_all.deb ...
Unpacking ncurses-term (6.4+20240113-1ubuntu2) ...
Selecting previously unselected package ssh-import-id.
Preparing to unpack .../5-ssh-import-id_5.11-0ubuntu2.24.04.1_all.deb ...
Unpacking ssh-import-id (5.11-0ubuntu2.24.04.1) ...
Setting up openssh-client (1:9.6p1-3ubuntu13.8) ...
Setting up ssh-import-id (5.11-0ubuntu2.24.04.1) ...
Setting up libwrap0:amd64 (7.6.q-33) ...
Setting up ncurses-term (6.4+20240113-1ubuntu2) ...
Setting up openssh-sftp-server (1:9.6p1-3ubuntu13.8) ...
Setting up openssh-server (1:9.6p1-3ubuntu13.8) ...

Creating config file /etc/ssh/sshd_config with new version
Creating SSH2 RSA key; this may take some time ...
```



```
mugesh@DESKTOP-ELKSV5N:~$ sudo visudo
mugesh@DESKTOP-ELKSV5N:~$ sudo systemctl restart ssh.service
mugesh@DESKTOP-ELKSV5N:~$ sudo systemctl daemon-reload
mugesh@DESKTOP-ELKSV5N:~$ sudo systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
     Loaded: loaded (/usr/lib/systemd/system/ssh.service; disabled; preset: enabled)
     Active: active (running) since Fri 2025-03-21 05:57:41 UTC; 39s ago
TriggeredBy: ● ssh.socket
       Docs: man:sshd(8)
             man:sshd_config(5)
   Main PID: 6531 (sshd)
      Tasks: 1 (limit: 8240)
     Memory: 1.2M ()
     CGroup: /system.slice/ssh.service
             └─6531 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Mar 21 05:57:41 DESKTOP-ELKSV5N systemd[1]: Starting ssh.service - OpenBSD Secure Shell server...
Mar 21 05:57:41 DESKTOP-ELKSV5N sshd[6531]: Server listening on :: port 22.
Mar 21 05:57:41 DESKTOP-ELKSV5N systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
mugesh@DESKTOP-ELKSV5N:~$ ls
docker-compose.yml  guvidevopsday1  pod.yml
mugesh@DESKTOP-ELKSV5N:~$ ls /etc/systemd/system/sshd.service or ls /usr/lib/systemd/system/sshd.service
ls: cannot access '/etc/systemd/system/sshd.service': No such file or directory
ls: cannot access 'or': No such file or directory
ls: cannot access 'ls': No such file or directory
ls: cannot access '/usr/lib/systemd/system/sshd.service': No such file or directory
mugesh@DESKTOP-ELKSV5N:~$ cd ~/.kube/
mugesh@DESKTOP-ELKSV5N:~/.kube$ ls
cache  config
mugesh@DESKTOP-ELKSV5N:~/.kube$ sudo nano config
[sudo] password for mugesh:
mugesh@DESKTOP-ELKSV5N:~/.kube$ sudo nano config
mugesh@DESKTOP-ELKSV5N:~/.kube$ sudo vi config
mugesh@DESKTOP-ELKSV5N:~/.kube$ kubectl get node
NAME       STATUS   ROLES           AGE   VERSION
minikube   Ready    control-plane   47h   v1.32.0
mugesh@DESKTOP-ELKSV5N:~/.kube$ sudo vi config
mugesh@DESKTOP-ELKSV5N:~/.kube$ kubectl get node
NAME       STATUS   ROLES           AGE   VERSION
minikube   Ready    control-plane   2d    v1.32.0
mugesh@DESKTOP-ELKSV5N:~/.kube$ |
```



```
mugesh@DESKTOP-ELKSV5N:~$ cd ~/.kube/
mugesh@DESKTOP-ELKSV5N:~/.kube$ cat /home/mugesh/.minikube/ca.crt | base64 -w 0; echo
mugesh@DESKTOP-ELKSV5N:~/.kube$ cat /home/mugesh/.minikube/client.crt | base64 -w 0; echo
cat: /home/mugesh/.minikube/client.crt: No such file or directory

mugesh@DESKTOP-ELKSV5N:~/.kube$ sudo cat /home/mugesh/.minikube/client.crt | base64 -w 0; echo
[sudo] password for mugesh:
cat: /home/mugesh/.minikube/client.crt: No such file or directory

mugesh@DESKTOP-ELKSV5N:~/.kube$ cat /home/mugesh/.minikube/client.crt | base64 -w 0; echo
cat: /home/mugesh/.minikube/client.crt: No such file or directory

mugesh@DESKTOP-ELKSV5N:~/.kube$ cat /home/mugesh/.minikube/profiles/minikube/client.key | base64 -w 0; echo
mugesh@DESKTOP-ELKSV5N:~/.kube$ cat /home/mugesh/.minikube/profiles/minikube/client.crt | base64 -w 0; echo
mugesh@DESKTOP-ELKSV5N:~/.kube$ _
```


localhost:8080/job/java-app/workflow-stage/

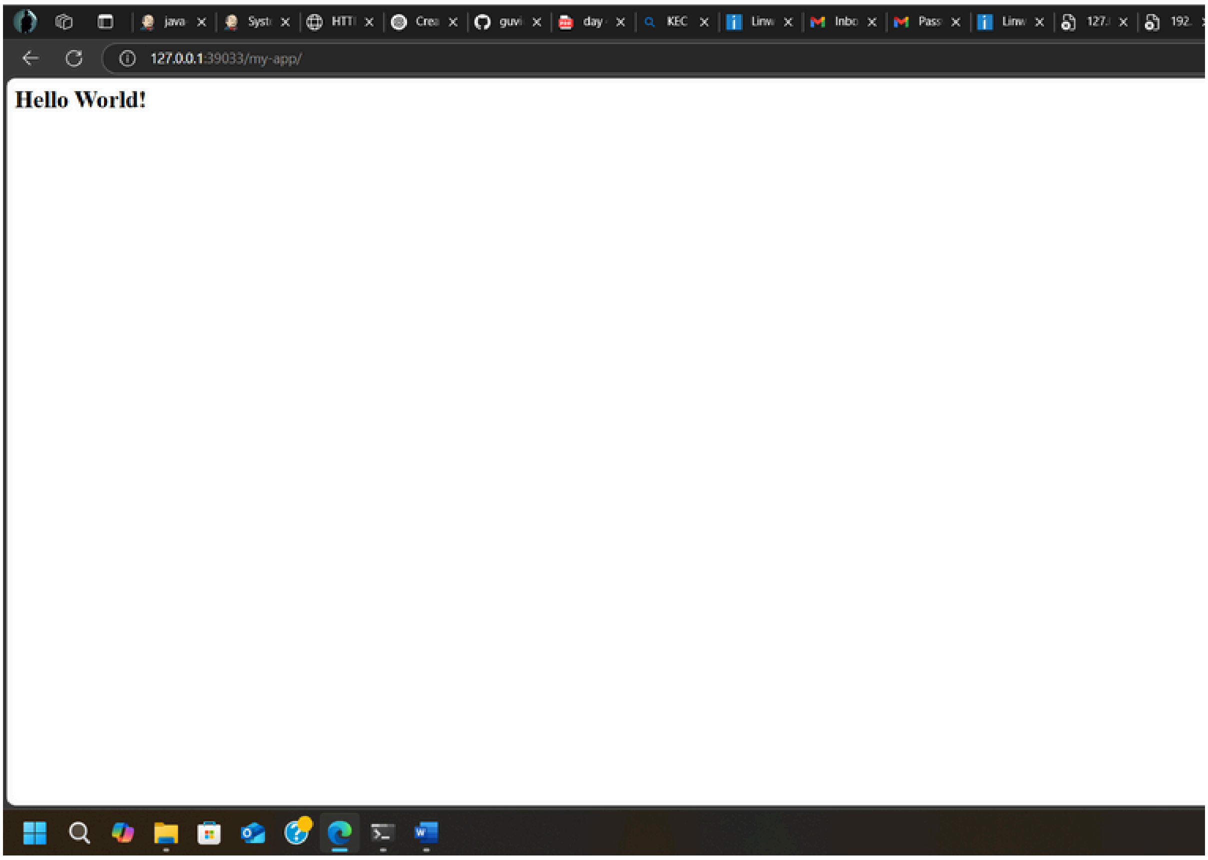
Jenkins
Mugesh Selvaraj
log out

Dashboard > java-app > Full Stage View

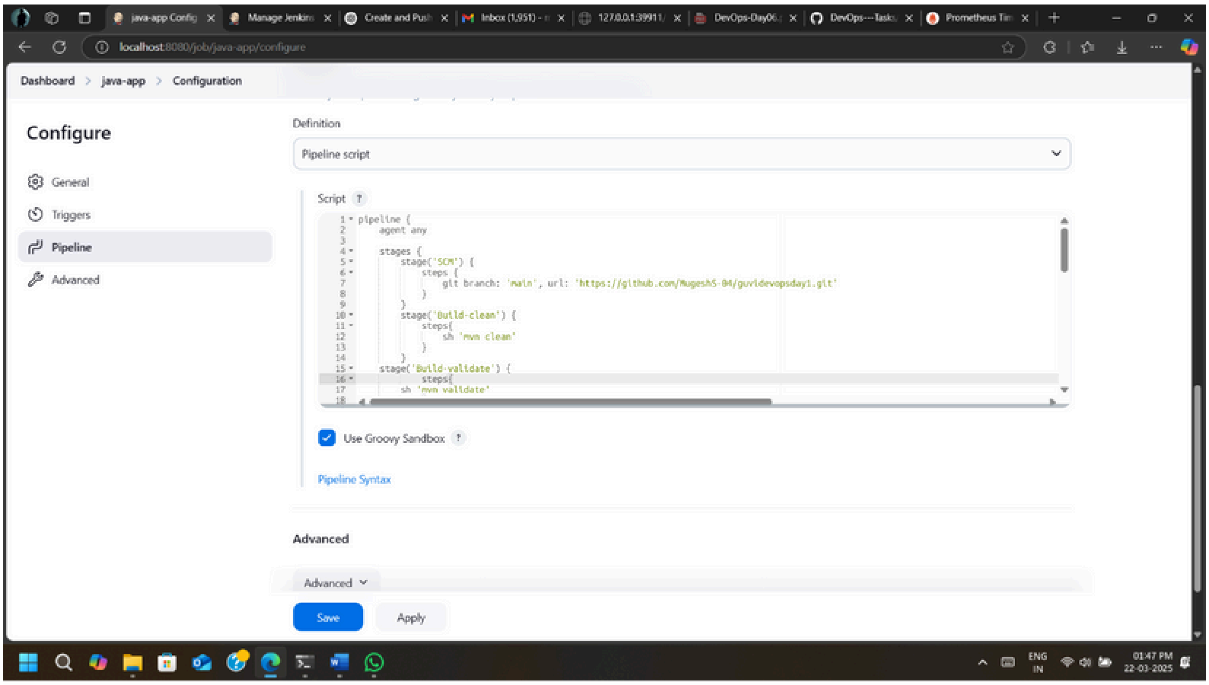
java-app - Stage View

	SCM	Build-clean	Build-validate	Build-compile	Build-test	Build-package	build to images	docker push hub	deploy webapp
Average stage times: (full run time: ~58s)	2s	2s	2s	4s	3s	3s	657ms	35s	904ms
#5 16:11 1	2s	2s	2s	3s	3s	3s	767ms	32s	904ms
#4 16:10 No Changes									
#3 16:09 No Changes									
#2 13:42 No Changes	1s	2s	2s	6s	3s	3s	548ms	39s	

ENG
IN
04:15 PM
21-03-2025


127.0.0.1:39033/my-app/

Hello World!


java-app Config
Manage Jenkins
Create and Push
Inbox (1,951)
127.0.0.1:39911/
DevOps-Day06
DevOps---Tasks
Prometheus Tim
localhost:8080/job/java-app/configure
Dashboard > java-app > Configuration
Configure
General
Triggers
Pipeline
Advanced
Use Groovy Sandbox
Pipeline Syntax
Save
Apply
ENG IN
01:47 PM
22-03-2025

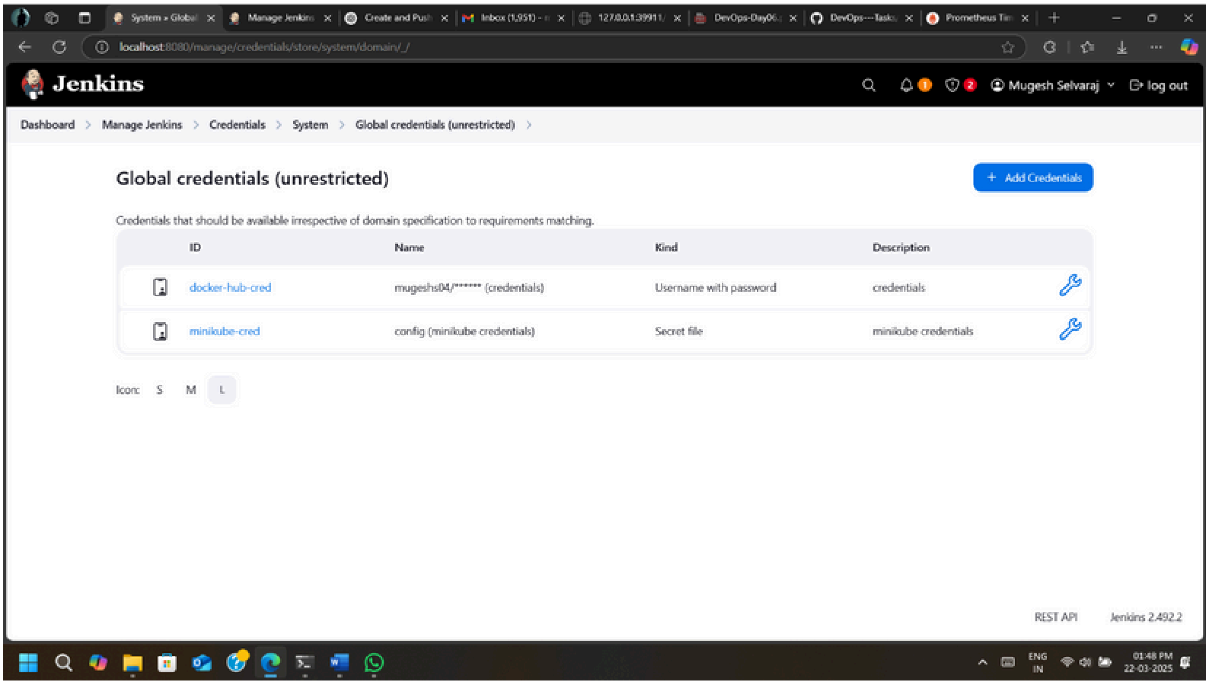
Definition: Pipeline script

Script

```
pipeline {
    agent any

    stages {
        stage('SCM') {
            steps {
                git branch: 'main', url: 'https://github.com/MugeshS-04/guvidevopsday1.git'
            }
        }
        stage('Build-clean') {
            steps{
                sh 'mvn clean'
            }
        }
    stage('Build-validate') {
            steps{
        sh 'mvn validate'
```

☑ Use Groovy Sandbox

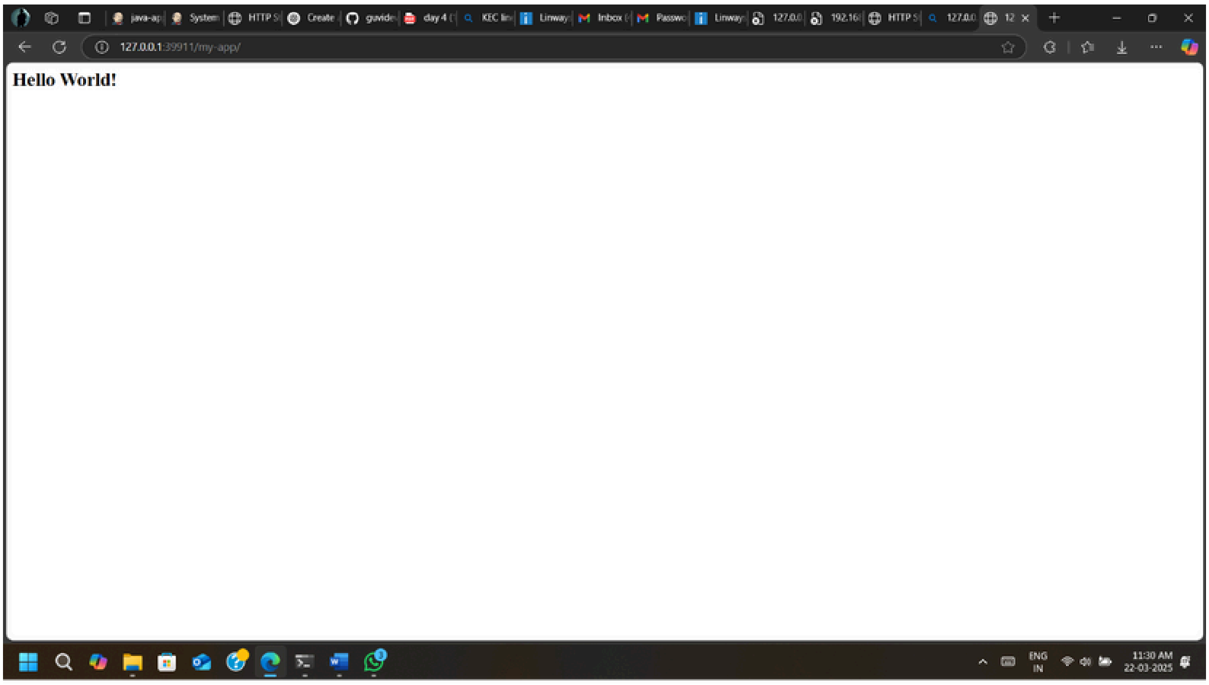
Advanced


System » Global
Manage Jenkins
Create and Push
Inbox (1,951)
127.0.0.1:39911/
DevOps-Day06
DevOps---Tasks
Prometheus Tim
localhost:8080/manage/credentials/store/system/domain/_/
Jenkins
Mugesh Selvaraj
log out
Dashboard > Manage Jenkins > Credentials > System > Global credentials (unrestricted)
+ Add Credentials
Icon: S M L
REST API
Jenkins 2.492.2
ENG IN
01:48 PM
22-03-2025

Global credentials (unrestricted)

Credentials that should be available irrespective of domain specification to requirements matching.

ID	Name	Kind	Description
docker-hub-cred	mugeshs04/****** (credentials)	Username with password	credentials
minikube-cred	config (minikube credentials)	Secret file	minikube credentials


127.0.0.1:39911/my-app/
ENG IN
11:30 AM
22-03-2025

Hello World!