

FINAL PROJECT

DevOps-Day06:

JAVA APPLICATION DEPLOYMENT IN MINIKUBE

PIPELINE:

```
pipeline
```

```
{ agent
```

```
any
```

```
stages {
```

```
  stage('SCM
```

```
    ') { steps
```

```
    {
```

```
      git branch: 'main', url:
```

```
      'https://github.com/nikilprasannaks/guvidevop  
      sday1.git'
```

```
    }
```

```
  }
```

```
  stage('Build-
```

```
    clean') {
```

```
steps{  
  sh 'mvn clean'  
}  
}  
stage('Build-validate') {  
  
  ste  
  ps{  
    sh 'mvn validate'  
  
  }  
}
```

```
stage('Build-  
compile') { steps{  
    sh 'mvn compile'  
}  
}  
stage('Build-test') {  
  
ste  
ps{  
    sh 'mvn test'  
  
}  
}  
stage('Build-  
package') { steps{  
    sh 'mvn package'  
}  
}  
stage('build to  
images') {  
steps {  
script{
```

```
    sh "docker build -t
    nikilprasannaks/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.

```

```

nikil@NIKILPRASANNA: ~/ku  ×  +  ▾
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 2s (441 kB/s)
Preconfiguring packages ...
Selecting previously unselected package openssh-sftp-server.
(Reading database ... 41311 files and directories currently installed.)
Preparing to unpack .../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 .../libwrap0_7.6.q-33_amd64.deb ...
Unpacking libwrap0:amd64 (7.6.q-33) ...
Selecting previously unselected package openssh-server.
Preparing to unpack .../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 .../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 .../ssh-import-id_5.11-0ubuntu2.24.04.1_all.deb ...
Unpacking ssh-import-id (5.11-0ubuntu2.24.04.1) ...
Setting up openssh-sftp-server (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-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 ...
3072 SHA256:hEf8NH2D+2P7pVzKKAT3hdjkgNb3rtUI7CFbgbhU2t4 root@NIKILPRASANNA (RSA)
Creating SSH2 ECDSA key; this may take some time ...
256 SHA256:PhStjsAS9a7DW8cKoBNPSgD2oaIyKRg16GufaPcLL2U root@NIKILPRASANNA (ECDSA)
Creating SSH2 ED25519 key; this may take some time ...
256 SHA256:Fd9ThxLjdGwaL10aJBlznex0UTEhMcVL1Y718Kf5Kng root@NIKILPRASANNA (ED25519)
Created symlink /etc/systemd/system/sockets.target.wants/ssh.socket → /usr/lib/systemd/system/ssh.socket.
Created symlink /etc/systemd/system/ssh.service.requires/ssh.socket → /usr/lib/systemd/system/ssh.socket.
Processing triggers for man-db (2.12.0-4build2) ...

```



```
}

```

System > Global > Manage Jenkins > Credentials > System > Global credentials (unrestricted) >

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

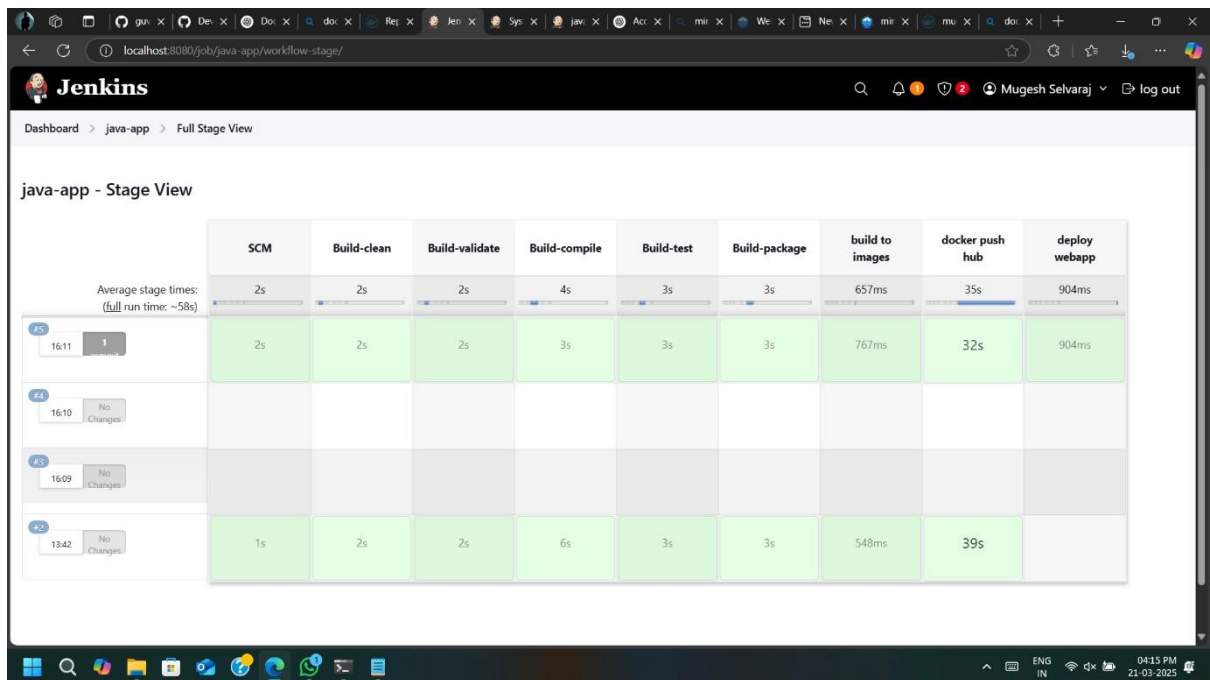
Icon: S M **L**

REST API Jenkins 2.492.2

```
mugesh@DESKTOP-ELKSV5N: x + v
libwrap0 ncurses-term openssl-server openssl-sftp-server ssh-import-id
The following packages will be upgraded:
  openssl-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 openssl-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 openssl-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-openssl-client_1:3a9.6p1-3ubuntu13.8_amd64.deb ...
Unpacking openssl-client (1:9.6p1-3ubuntu13.8) over (1:9.6p1-3ubuntu13.5) ...
Selecting previously unselected package openssl-sftp-server.
Preparing to unpack .../1-openssl-sftp-server_1:3a9.6p1-3ubuntu13.8_amd64.deb ...
Unpacking openssl-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 openssl-server.
Preparing to unpack .../3-openssl-server_1:3a9.6p1-3ubuntu13.8_amd64.deb ...
Unpacking openssl-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 openssl-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 openssl-sftp-server (1:9.6p1-3ubuntu13.8) ...
Setting up openssl-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-ELKSVSN: ~$ sudo visudo
mugesh@DESKTOP-ELKSVSN:~$ sudo systemctl restart ssh.service
mugesh@DESKTOP-ELKSVSN:~$ sudo systemctl daemon-reload
mugesh@DESKTOP-ELKSVSN:~$ 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 (C)
   CGroup: /system.slice/ssh.service
           └─6531 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Mar 21 05:57:41 DESKTOP-ELKSVSN systemd[1]: Starting ssh.service - OpenBSD Secure Shell server...
Mar 21 05:57:41 DESKTOP-ELKSVSN sshd[6531]: Server listening on :: port 22.
Mar 21 05:57:41 DESKTOP-ELKSVSN systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
mugesh@DESKTOP-ELKSVSN:~$ ls
docker-compose.yml  guivideoesday1  pod.yml
mugesh@DESKTOP-ELKSVSN:~$ 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-ELKSVSN:~$ cd ~/.kube/
mugesh@DESKTOP-ELKSVSN:~/.kube$ ls
cache  config
mugesh@DESKTOP-ELKSVSN:~/.kube$ sudo nano config
[sudo] password for mugesh:
mugesh@DESKTOP-ELKSVSN:~/.kube$ sudo nano config
mugesh@DESKTOP-ELKSVSN:~/.kube$ sudo vi config
mugesh@DESKTOP-ELKSVSN:~/.kube$ kubectl get node
NAME                STATUS    ROLES    AGE   VERSION
minikube            Ready    control-plane   v1.32.0
mugesh@DESKTOP-ELKSVSN:~/.kube$ sudo vi config
mugesh@DESKTOP-ELKSVSN:~/.kube$ kubectl get node
NAME                STATUS    ROLES    AGE   VERSION
minikube            Ready    control-plane   2d    v1.32.0
mugesh@DESKTOP-ELKSVSN:~/.kube$
```

Jenkins

Dashboard > Manage Jenkins > Credentials > System > Global credentials (unrestricted)

Global credentials (unrestricted)

+ Add Credentials

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

ID	Name	Kind	Description
docker-hub-cred	mugesh04/***** (credentials)	Username with password	credentials
minikube-cred	config (minikube credentials)	Secret file	minikube credentials

Icons: S M L

REST API Jenkins 2.492.2

Dashboard

java-app

Configuration

Configure

General

Triggers

Pipeline

Advanced

Definition

Pipeline script

Script

```
1 pipeline {
2   agent any
3   stages {
4     stage('SCM') {
5       steps {
6         git branch: 'main', url: 'https://github.com/Rugesh5-04/guvidevopsday1.git'
7       }
8     }
9     stage('Build-clean') {
10      steps {
11        sh 'mvn clean'
12      }
13    }
14    stage('Build-validate') {
15      steps {
16        sh 'mvn validate'
17      }
18    }
19  }
20 }
```

☒ Use Groovy Sandbox

Pipeline Syntax

Advanced

Advanced

Save

Apply

127.0.0.1:39033/my-app/

Hello World!